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United States Department of the Interior

Bureau of Land Management

Environmental Assessment
Gore Canyon Whitewater Park at Pumphouse

Kremmling Field Office
2103 East Park Ave
Kremmling, Colorado 80459

DOI-BLM-LLCONO2000-2014-020

August 2014

Contents

CHAPTER 1 - INTRODUCTION

1.1 IDENTIFYING INFORMATION

PROJECT NAME: Gore Canyon Whitewater Park at Pumphouse

NUMBER: DOI-BLM-120-2014-0020-EA

APPLICANT: Grand County Board of Commissioners, Colorado

CASEFILE/PROJECT NUMBER: COC-76342

1.2 PROJECT LOCATION AND LEGAL DESCRIPTION

LEGAL DESCRIPTION: Grand County, 6th P.M., T. 1 S., R. 82 W., Section 12

1.3 PURPOSE AND NEED

The purpose of the proposed action is to provide Grand County access to a location on the Colorado River to construct a whitewater park and indirectly protect stream flows on the Upper Colorado River in Grand County. The need for the proposed action is to respond to a FLPMA right of way request submitted by the proponent to construct a whitewater park on public lands administered by the BLM Kremmling Field Office (KFO).

1.4 PLAN CONFORMANCE REVIEW

The Proposed Action is in conformance with the Record of Decision for the Kremmling Resource Management Plan approved in 1984 and updated in 1999, which states: "Provide the opportunity to utilize public lands for development of facilities which benefit the public, while considering environmental and agency concerns".

Although the proposed action and alternative(s) are not specifically mentioned in the plan, they are consistent with its objectives, goals, and decisions as they relate to Realty and Recreation programs as stated in the Decision. The public lands involved in the proposed action are committed to special recreation management areas (SRMA) and are managed under the Upper Colorado SRMA Plan. The surrounding area is also within the Upper Colorado Habitat Management Plan which the ROD recognizes for big game critical winter range for deer and elk and the protection of bald eagle winter habitat and raptor nesting emphasis (pg. 9 of the ROD). It has been determined that the proposed action and alternative(s) would not conflict with other decisions throughout the plan.

This Environmental Analysis fulfills the 1969 National Environmental Policy Act (NEPA) requirement for site-specific analysis. The Proposed Action is in accordance with the following laws and/or regulations, other plans, and is consistent with Federal, State, and local laws, regulations:

• Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.)

• Endangered Species Act of 1973 as amended

• Clean Water Act Section 303d

• Section 106 of the National Historic Preservation Act of 1966 as amended

• Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds

1.5 PUBLIC PARTICIPATION

1.5.1 Scoping: NEPA regulations (40 CFR §1500-1508) require that the BLM use a scoping process to identify potential significant issues in preparation for impact analysis. The principal goals of scoping are to allow public participation to identify issues, concerns, and potential impacts that require detailed analysis.

Scoping was the primary mechanism used by the BLM to initially identify issues. Internal scoping was initiated when the project was presented to the Kremmling Field Office interdisciplinary team on 1/27/2014. External scoping was conducted by posting this project on the KFO's on-line National Environmental Policy Act (NEPA) register on 01/24/2014, and sending out letters requesting comments to Colorado Parks and Wildlife and Upper Colorado

River outfitters. On February 3, 2014 a news release was also sent out to local newspapers, with the Sky-Hi News running an article about the proposed action on February 5, 2014. The Grand Gazette published the news release on February 6, 2014.

Issues raised during the scoping period include:

- The proposed location already sees a high number of visitors. What increase in users could be expected?
- Would the increase in use necessitate additional facilities, especially for additional camping?
- Will the waves function at the most common water levels? For what type of user (kayak, paddle boarders) and experience levels?
- Float fishing traffic currently is greater than kayaking traffic. Will the structure impede float fishing boats?
- Will the structure be submerged at all flows? Exposed rock could impede boaters and increase water temperatures during low flow periods.
- Will the structure impair upstream fish migration and degrade aquatic habitat?
- Will the structure affect the macro-invertebrate population, especially the Pteronarycs californica ("salmon fly") in the area?
- Will the proposed construction time period impact fall spawning, in particular, that of the brown trout?
- Will the structure transport sediment and large woody debris?
- The structure is an essential part of the Colorado River Cooperative Agreement (CRCA) and the water right for the structure provides an ecological benefit to the Upper Colorado River.
- Whitewater enthusiasts support a whitewater park on the Colorado River.

1.6 DECISION TO BE MADE

The BLM will decide whether to approve the request for access to a location on the Colorado River to construct a whitewater park and indirectly protect stream flows on the Upper Colorado River in Grand County. The BLM may choose to accept the project as proposed or to not authorize the proposed action.

CHAPTER 2 - PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

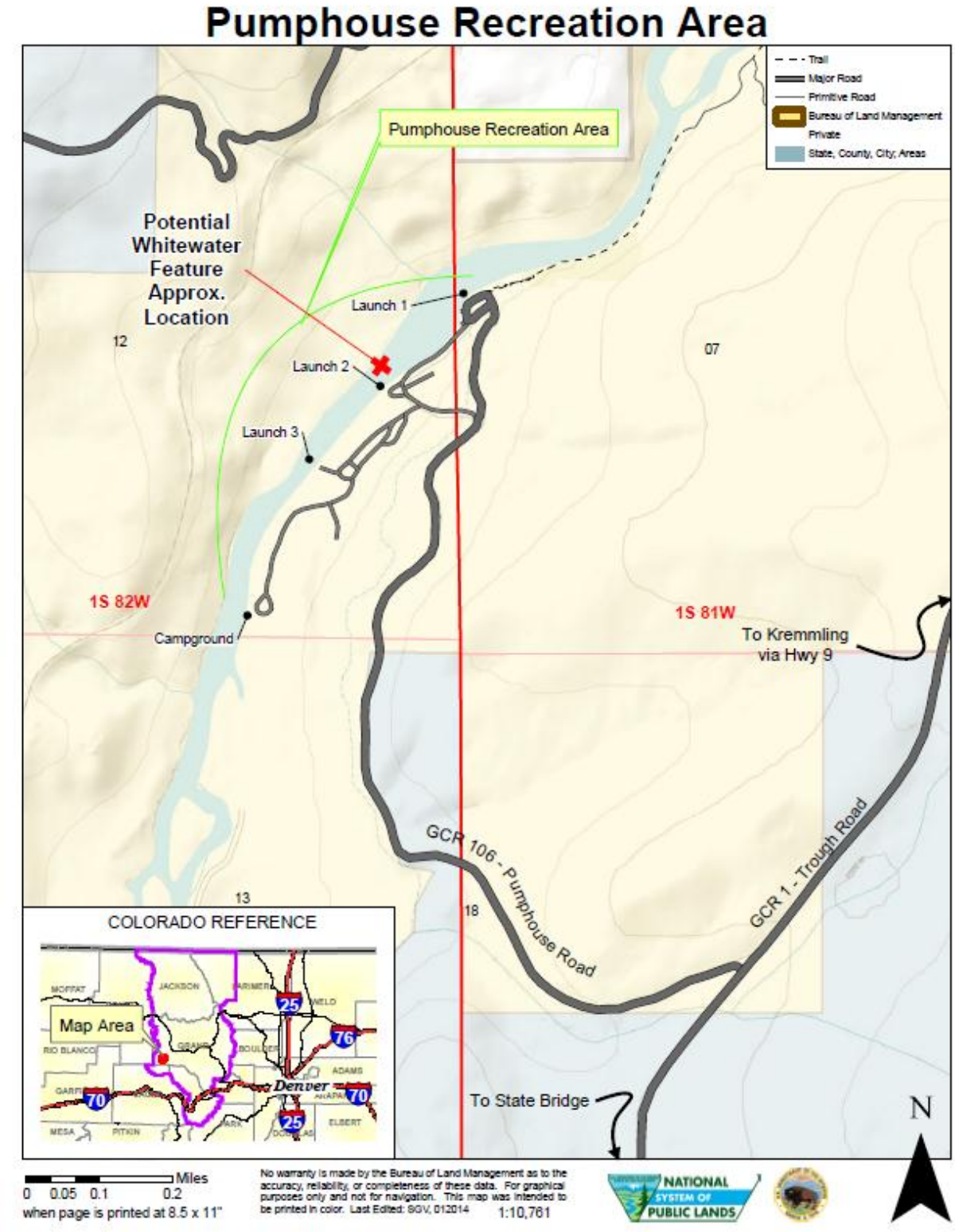
The Grand County Board of County Commissioners has applied for a right-of-way to construct a whitewater park at the Pumphouse Recreation Site on the Colorado River. The project is intended to provide a reasonable recreational experience as allowed by Colorado law; and in doing so: 1). Implement an important part of the Colorado River Cooperative Agreement (CRCA) among Denver Water and over thirty west slope entities that provides for the development of a Recreational In-Channel Diversion (RICD) below Gore Canyon; and 2). Provide permanent protection for flows in support of the Outstanding Remarkable Values (ORV) for Recreational Float boating in the Upper Colorado River as part of the BLM Resource Management Plan in support of the Wild & Scenic Rivers Stakeholders Group Alternative Management Plan. The BLM's eligibility determination for this segment of the Colorado River included scenic, recreational (fishing, float boating, and scenic driving), geological, wildlife, and historic ORVs.

The Bureau of Land Management and the U.S. Army Corps of Engineers (Corps) intend to use this environmental assessment towards fulfilling their NEPA requirements. The BLM would issue the right-of-way permit for the county to access, construct, and maintain their structure on public lands. In addition to using this environmental assessment, the Corps will complete supplemental NEPA review and an alternatives analysis as required under Section 404 of the Clean Water Act to make a permit decision regarding the discharge of dredged or fill material into the waters of the United States. The Colorado Department of Public Health and Environment (CDPHE) would require review for 401 Water Quality standards to ensure the river corridor would be respected during construction.

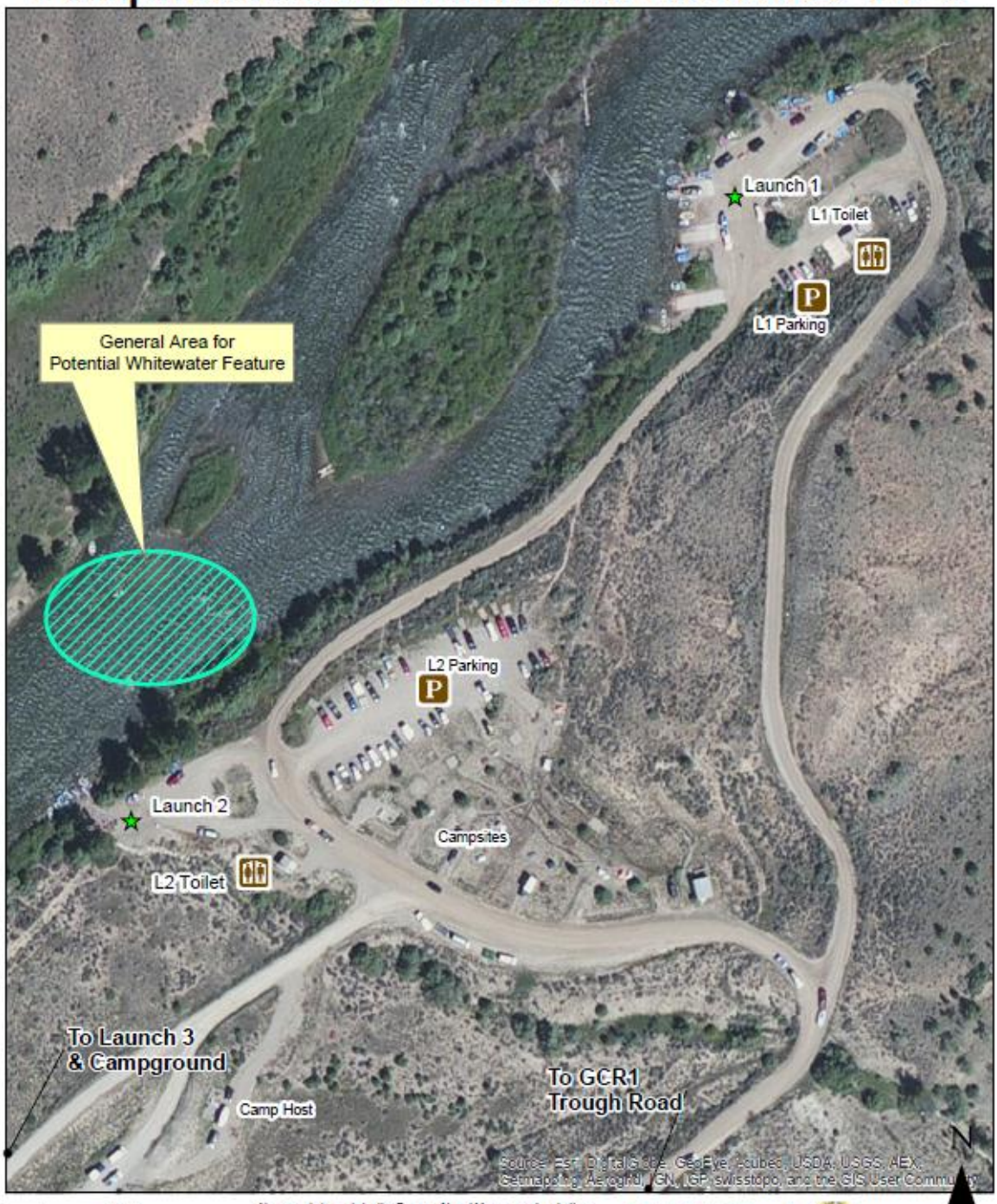
Grand County has stated that the expected public benefits include providing an additional positive social effect and recreational experience for the 60,000 - 80,000 average annual visitors that frequent Pumphouse Recreational Area. The feature could be used both as a park and play amenity for both beginner and experienced boaters. The feature also provides an opportunity for beginners to practice and/or receive instruction prior to boating down river. The feature could provide a unique boater experience from early spring through late fall.

It is expected to see the heaviest use from residents within Grand, Garfield, Routt, Eagle and Summit counties. If organized events were permitted for the site, it would have potential to draw people worldwide. The feature could offer expanded seasonal river-based recreation opportunities due to the extended flow season of the Upper Colorado River provided by the water right, creating a draw for freestyle kayakers, standup paddle boarders, river surfers, river boarders, boogie boarders and other non-motorized boating.

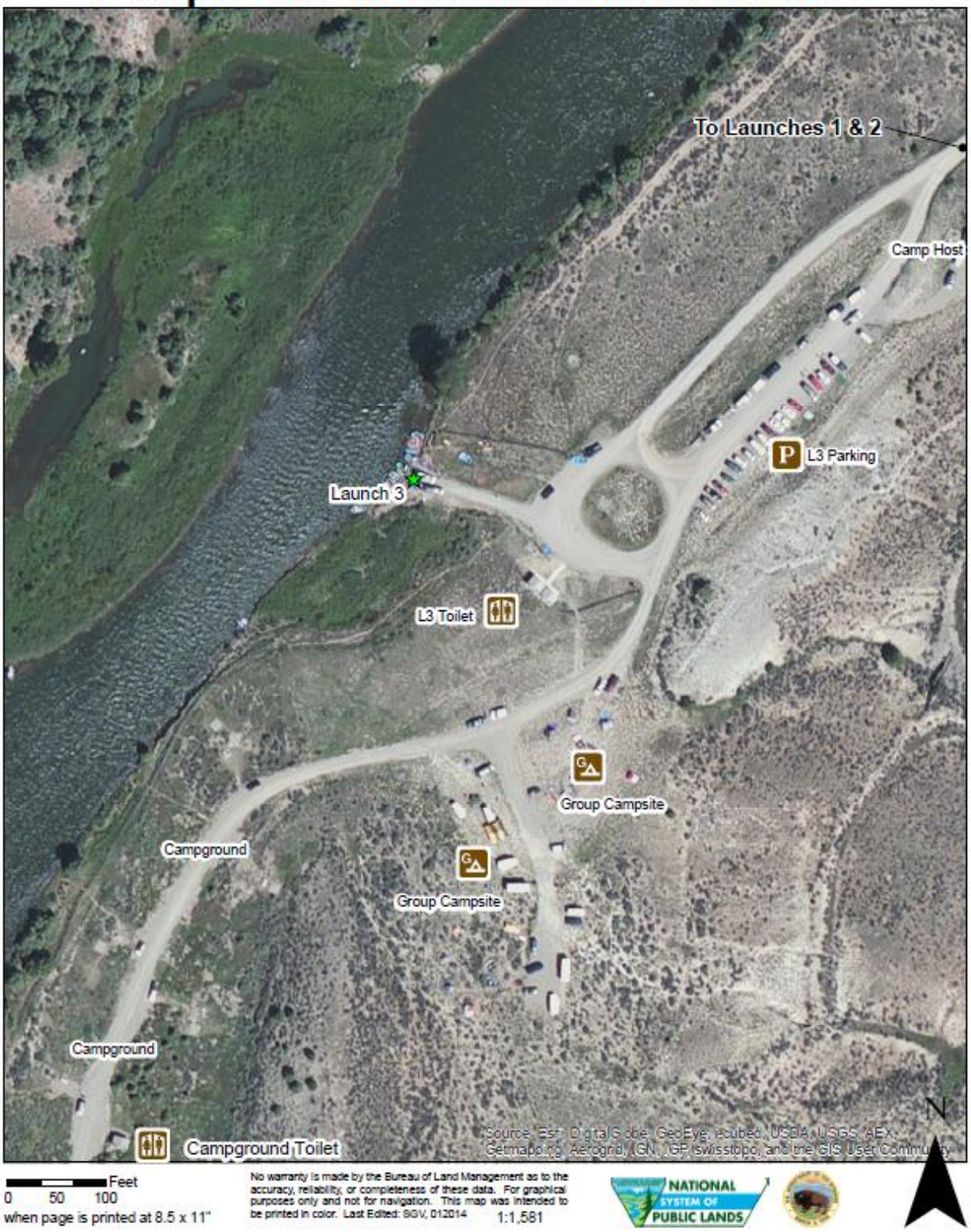
Grand County originally considered several sites on the Colorado River. Due to the limited availability of public land with acceptable hydrology, Grand County's RICD water right decree only includes two main sites- the Hot Sulphur Springs Whitewater Park and the Gore Canyon Whitewater Park. The Gore Canyon Whitewater Park is located downstream of the Hot Sulphur Springs Park, and three major tributaries: the Blue River, Williams Fork River, and Muddy Creek join the river below the Hot Sulphur location. The Colorado River's average peak flow in the Gore Canyon area (2,500 cubic feet per second (c.f.s.)) is much greater than that at Hot Sulphur Springs' (850 c.f.s.). Accordingly, Grand County applied for a right-of-way to construct the Pumphouse Site (aka "Launch Counter" in the RICD water right decree).


Pumphouse Recreation Area
Trail
Major Road
Primitive Road
Bureau of Land Management
Private
State, County, City, Areas
Pumphouse Recreation Area
Potential Whitewater Feature Approx. Location
Launch 1
Launch 2
Launch 3
12
07
1S 82W
1S 81W
Campground
To Kremmling via Hwy 9
GCR 106 - Pumphouse Road
GCR 1 - Trough Road
13
18
COLORADO REFERENCE
Map Area
Denver
To State Bridge
N
Miles
0 0.05 0.1 0.2
when page is printed at 8.5 x 11"
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data. For graphical purposes only and not for navigation. This map was intended to be printed in color. Last Edited: SGV, 012014
1:10,761
NATIONAL SYSTEM OF PUBLIC LANDS

Pumphouse Recreation Area Launches 1 & 2



Pumphouse Recreation Area Launch 3



2.2 ALTERNATIVES ANALYZED IN DETAIL

2.2.1 Proposed Action

The Grand County Board of County Commissioners is proposing to construct a Gore Canyon Whitewater Park located upstream of Boat Launch 2 at Pumphouse Recreation Site spanning the full width of the river. The Proposed Alternative has direct proximity to existing facilities and use benefits as it is adjacent to a developed boat ramp, parking, bathrooms, picnic area and campground; reducing the amount of upland disturbance needed to support and utilize the structure. The site is included in the RICD water right decree (case number 2010CW298) as the "Launch Counter" site in the Gore Canyon Whitewater Park. Grand County has a "calling" conditional water right of 860 c.f.s. from April 5- April 28th and July 23- Oct 15th, and 1,500 c.f.s. from April 29th- July 22nd, adjudicated in January, 2014. The decree determined that the structure meets the requirements for a RICD and the applicant's contractor has submitted that the design meets the Colorado Water Conservation Board's requirements for a recreational structure.

The proposed structure would consist of a grade control structure of native boulders, alluvium, and filter fabric. The structure would have two distinct channels due to influences from the upstream island. The BLM contacted the project proponent in February, 2014 with questions regarding the proposed alternative's design and the desire to reduce potential fishery impacts. On July 1, 2014, Grand County submitted an updated design that modifies one of the two channels of the proposed structure. This modified structure is intended to enhance fish passage through the structure and is considered the proposed alternative.

In the south (nearest to the Pumphouse Site) channel would be pre-cast structures generating a hydraulic jump, evident at all flows. The island between the two channels would be submerged at 2,000 c.f.s. The pre-cast structure would be submerged for flows above 500 c.f.s. and would create a wave feature. The structure would not have the pre-cast structures in the right (north) channel, and instead would consist of select seven foot boulders with an open gap in the center of the channel. The pre-cast structure would be submerged for flows above 500 c.f.s. and would create a wave feature. The structure would not have the pre-cast structures in the right (north) channel, and instead would consist of select seven foot boulders with an open gap in the center of the channel. The gap and boulders would be below the existing grade, and the gap creates a "fish passage channel" approximately four feet in width, which is has a 1.5 foot depth when flows are 500 c.f.s. At 250 c.f.s., the depth would be six inches. The entire river structure would be "keyed in" to the bed of the river, with minimum depths of four feet to six feet below the existing bed to prevent scour. Boulder terraces would be constructed to stabilize the banks, with the left (south) bank including a slab stone terrace. The south terrace would also act as a staging area and viewing platform for spectators and users.

Anticipated temporary environmental impacts at this site include temporary construction access through a predominantly upland bank with impacts to riparian vegetation anticipated to be less than 0.025 acres encompassing construction activities on both sides of the bank. Permanent impacts include the conversion of the 0.025 acre riparian area to stabilized boulder bank for the purposes of ingress and egress for recreational uses and spectator seating. The boulder terrace would not disturb the mature Ponderosa Pines on the south side of the bank, utilizing the trees for shade.

The left (south) structure is designed to provide three different levels of recreation experience, described as blue, black, and double black freestyle whitewater, similar to downhill ski run ratings. The blue rating is for intermediate boaters, while a black rating is for experts. For flows of 1,100 c.f.s., the structure would provide a blue experience. Flows of 1,500 c.f.s. would provide a black whitewater experience, while flows of 2,500 c.f.s., a double black experience. Starting at 1,100 c.f.s., the downstream pool in the left (south) channel would have the three foot depth necessary for a kayak roll and increase the range of freestyle whitewater maneuvers. Below 2,000 c.f.s. however, novice boaters can still go down this river segment. The center of the river would be under water at 2,000 c.f.s. allowing for boats to go over it for a less challenging experience than over the structure. As the water levels rise, boaters would also be able to go around either side of the structure. Random boulders would also be placed downstream of the structure, along both shorelines, to create near bank eddies for upstream navigation of small boats.

The case file contains the detailed engineering plans and report, and structure designs. Attached to this environmental assessment is C-4, which includes the cross sectional view of the structure.

Design Features of the Proposed Action:

The Proposed Alternatives would include the following design features:

Specifics Pertaining to the Construction Equipment and Site:

- During the construction period, the area between Launch 1 and Launch 2 would be closed to the public. The applicant is responsible for posting the area to insure public safety.
- Equipment would be allowed to operate in the wet channels. Equipment operating in or adjacent to any wet channels would be free of any fluid leaks and in excellent operating condition. Biodegradable fluids would be utilized when feasible. No equipment would be left unattended at any time in any wet channel or below the Ordinary High Water Line. Any and all fueling and oiling of equipment would be in a designated upland location, with adequate BMPs to contain any potential spill, and would not be allowed in or adjacent to any channel. Oil booms would be installed at the downstream end of the Project Limits and functioning at all times while equipment is operating in the active channel or below the ordinary high water line.
- All construction equipment must be clean prior to entering the project area to prevent the spread of noxious or invasive species.
- A Spill Cleanup Plan would be posted and available at all times on site for all work areas prior to any construction activities and would include coordination with local emergency response agencies. A release of any chemical, oil, petroleum product, sewage, etc., which may enter waters of the State of Colorado (which include surface water, ground water and dry gullies or storm sewers leading to surface water) would be reported to the Colorado Department of Public Health and Environment immediately (25-8-601 CRS).
- The construction staging areas are depicted on the Care of Water Plan (Sheet C1) and Details (Sheet R5) and are located on the north and south side of the construction area. Both areas incorporate a contained oiling area with spill cleanup and a posted cleanup plan. In addition, both staging areas would contain stage pumps with spill containment. If additional staging areas are

needed, existing disturbed areas such as the parking lots would be used to avoid new soil disturbances and to avoid potential impacts to the penstemon.

- Temporary equipment access areas are also depicted on Sheet C1 and are detailed on Sheet R-6. Each area provides access from the construction staging area to the river and incorporates appropriate Best Management Practices (BMP's). Upon construction completion, the access areas would become part of the bank terracing as depicted on the plans.

Whitewater Park Design and Construction:

- The active construction areas would be isolated by turbidity curtains and/or aqua dams or equivalent. Temporary increases in turbidity may be associated with track equipment in the wet channel while setting and removing water control features and other BMPs. Track equipment may also excavate native channel alluvium and place natural boulders in the wet. No discharge of wet cement or cement laden turbid waters is permitted in the flowing channel. All isolated waters would be pumped and filtered before discharging into the main channel.
- All discharges of materials are below the Ordinary High Water Mark, in upland areas, or within the limits of the existing banks. No wetland soils or the potential for hydric soil development were observed within the limits of disturbance at the site. Approximately 0.025 acres of sparse riparian bank would incur temporary construction impacts and would be permanently stabilized with imbricated boulder necessary to construct the river recreation enhancement features.
- In-channel construction would be timed with the lowest flow periods, after the brown trout spawn and the majority of the recreational use. Construction mobilization is proposed and anticipated October 1, 2014. Commencement of construction is proposed November 15, 2014 through January 2015.
- Heavy equipment use would need to be concentrated during the months of November and December with curtailment during the month of January to minimize disturbance to bald eagle breeding behavior. If heavy machinery is still a necessity in January, hours of operation might need to be limited to 4 hours per day to allow quite periods of undisturbed courtship behavior to occur. The Kremmling Field Office biologist would closely monitor eagle activity in the project vicinity to assess the sensitivity of eagle use in the area. These limited hours of operation criteria would also benefit the big game use in the area.
- In order for contractors and staff to access the site during the construction months (November-January), winter maintenance by the contractor is being requested as part of this Application. Grand County would require that the contractor obtain proper required BLM bonding and insurance to cover said maintenance, along with required bonding and insurance for the overall construction project on BLM lands. This would be made part of the bid documents.
- The design of the proposed structure would be ADA accessible for viewing the wave. The Engineer/Contractor would approve the viewing area of the structure with the Outdoor Recreation Planner before construction. If fencing is required, post and cable would be used to limit the horizontal lines.
- Native vegetative disturbance would be avoided and minimized (especially large trees and shrubs) as much as possible
- Imported boulders would match the soil colors and/or native rocks.
- Recreational uses as a result of the proposed structure would need to be closely monitored to ensure that impacts do not occur within Harrington's Penstemon habitat. If existing infrastructure

proves inadequate to support concentrated recreational demands, these sites would need to support other alternatives to support these activities while minimizing impacts to these Penstemon. Fencing could be a viable future option to avoid these impacts.

Post Construction:

- Local and dispersed recreation use would need to be closely monitored post construction to assess the "overflow" recreational use of the area and identify if these threats negatively impact nesting eagles. If it is determined that recreational impacts are negatively influencing eagle life stages in the vicinity, appropriate management actions would need to be taken to avoid these disruptions.
- If toilet pumping at Launch 2 toilets increases by more than double from 2014 numbers, Grand County would assist with cost of pumping.
- If the proposed structure creates the need for BLM staff to monitor/patrol this area and clear congestion off the roadway, Grand County would assist with the cost of additional staff or provide staff.

If a safety hazard is created by people walking on the road between Launch 1 and Launch 3 with tubes, SUPs, inflatable kayaks, etc. to utilize the proposed structure, then Grand County would assist with the construction of trail and or the widening of the existing road for a trail (e.g., staff, machinery, and/or materials) between the Launch 1 and Launch 2 segment, where more earthwork could be required.

Conduct post construction monitoring of the structure for unanticipated impacts associated with lateral scour and sediment aggradation. If determined to be problematic, these issues would be addressed via structure modification.

The BLM would work with the Grand County Commissioners to develop a Habitat and Population Monitoring Plan for the brown trout, giant stonefly, and bald and golden eagle habitat in the area surrounding the Pumphouse Recreation Site.

- The overall objective of this monitoring plan would be to document changes in habitat and population for brown trout, giant stonefly, and bald and golden eagle.
- Implementation of this plan would provide information which would allow the BLM to identify, evaluate, document, and monitor direct, indirect, and cumulative impacts to the habitat and populations. This plan would also provide the BLM with the tools necessary to determine appropriate mitigation measures. The plan would be implemented and funded by the project applicant and the BLM.
- Modifications to the structure would be made if the structure proves detrimental to fish passage or other habitat or population loss.

The BLM would inspect disturbed areas for noxious weeds for two growing seasons after the project is completed. If noxious weeds are found, it would be the responsibility of the BLM to treat the weed infestations.

Recreational uses as a result of the proposed structure would need to be monitored to ensure that impacts do not occur within Harrington's penstemon habitat. Fencing could be a viable future option to avoid these impacts.

Future access needs for any required maintenance would be coordinated with the BLM to minimize potential impacts to cultural resources and to penstemon populations.

2.2.2 No Action Alternative

The No Action Alternative would result in the BLM not issuing a ROW permit for the RICD structure at the Pumphouse Site. Grand County has already invested heavily to obtain conditional water rights to protect in channel recreation from future water development and to apply for this right-of-way. The water rights are conditional on features that would capture and control and put to beneficial use the waters of the State. Without further action, Grand County could lose their conditional water right, which helps them protect "instream" water gained in the Colorado Cooperative River Agreement. This agreement is to help reduce environmental impacts from trans-basin water diversions out of Grand County. There are several options that Grand County might pursue if the No Action Alternative is selected. Grand County could apply for a BLM ROW to construct the Inspiration Point structure (upstream of Pumphouse), for example, or they could pursue construction of the proposed features in the Hot Sulphur Springs Whitewater Park that are described in their RICD water rights decree. Grand County could also go back to water court to amend the locations described in their water right decree to include new locations. These options could entail many nuances that are difficult to predict, but could all result in considerable additional expenses for Grand County. These options are considered outside of the scope of this environmental assessment.

2.3 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

Grand County evaluated several sites for the installation of in channel whitewater features within the Colorado River. Project design essentially stayed the same, consisting of an in-channel structure with hydraulic jumps and boulder terraces to stabilize banks and provide seating. The following list of five sites was reviewed:

- The County Road 11 Bridge Crossing at Radium;
- The Radium Boat Launch;
- Upstream of Pumphouse Launch 1;
- Inspiration Point;
- Off-channel whitewater features

Grand County's evaluation of each site is available in the project folder. Instream projected impacts were similar regardless of the location of the structures, while upland impacts and limitations varied from site to site. From the five sites, they eliminated all but the Inspiration Point and the Proposed Alternative locations. They filed for these two and two features near Hot Sulphur Springs ("Glory Hole" and "Hot Pocket") when they filed for their RICD water right. They did not apply for a ROW for the Inspiration

Point location due to the need to construct the structure and all of the supporting infrastructure, including the access road, parking lot, and restrooms; which would add considerable expense to the project. The Inspiration Point location would also have additional upland impacts due to the lack of developed recreational facilities at the site. This environmental assessment is to assess issuing a right of way for the Pumphouse structure or not.

CHAPTER 3 - AFFECTED ENVIRONMENT AND EFFECTS

3.1 INTRODUCTION

This section provides a description of the human and natural environmental resources that could be affected by the Proposed Action and presents comparative analyses of the direct, indirect and cumulative effects on the affected environment stemming from the implementation of the actions under the Proposed Action and other alternatives analyzed.

Standards for Public Land Health: In January 1997, the Colorado BLM approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, special status species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis (EA). These findings are located in specific elements listed below.

Cumulative Effects Analysis Assumptions: Cumulative effects are defined in the Council on Environmental Quality (CEQ) regulations (40 CFR 1508.7) as "...the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." The geographic scope used for analysis may vary for each cumulative effects issue and is described in the Affected Environment section for each resource.

For the purpose of this EA, the general geographic area for cumulative impact analysis is at the Pumphouse Recreation Site. The time line for the cumulative impact analysis is 30 years based on the term of the ROW grant.

Affected Resources: The CEQ Regulations state that NEPA documents "must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR 1500.1(b)). While many issues may arise during scoping, not all of the issues raised warrant analysis in an environmental assessment (EA). Issues would be analyzed if: 1) an analysis of the issue is necessary to make a reasoned choice between alternatives, or 2) if the issue is associated with a significant direct, indirect, or cumulative impact, or where analysis is necessary to determine the significance of the impacts. Chapter 5 lists the resources considered and the determination as to whether they require additional analysis by the interdisciplinary team of specialists.

3.2 WETLAND AND RIPARIAN ZONES

Affected Environment: The Proposed Action has the south side (left) of the structure keyed in to the river bank within the Pumphouse Recreation Area. The south bank is fairly steep and the riparian zone is narrow, consisting mostly of a willow community. The scattered willows not only provide some bank stability, but also cover and shade for the near bank portions of the river and habitat. Recreational uses have created footpaths on the side slope of the bank, with smaller trails branching off to access the river. The north (right) side of the river is also fairly steep, which limits the width of the riparian zone. Boaters also pull over to the shore, but there is much less foot traffic on this side of the river. A few mature ponderosa pine are scattered among the willows.

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects: The Proposed Action would directly remove riparian vegetation on both banks for the structure's construction and location. The actual extent is fairly small, with approximately 0.03 acres impacted. The structure itself is designed to provide bank stability where the vegetation is removed. Indirect impacts could occur from the increased recreational use of the area- especially between the structure and Launch 2. Fencing and/or planting could help reduce this impact if needed.

Cumulative Effects: The Proposed Action would occur in an area that already has a large amount of recreational use in the riparian area. New or additional riparian impacts are reduced by co-locating the proposed structure at the Pumphouse Recreation Site as compared to other potential sites along this stretch of the Colorado River. The ability to perfect the RICD water right may help insure the riparian area has adequate river flows to help maintain the vegetation. Over time, the large ponderosa pines would need to be replaced. Conditions for natural regeneration may no longer be present due to the changes in hydrology and climate since the trees first sprouted. Wildlife and recreational uses may also reduce natural seeding from succeeding. As monitoring continues, additional actions may be needed to help ensure future trees along the riparian corridor in the Pumphouse Area.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Under the No Action Alternative, the riparian vegetation would not be disturbed to construct the structure. Existing recreational use would continue, with some vegetation being impacted or removed from foot traffic along the banks.

Cumulative Effects: If Grand County is unable to develop their RICD, especially within the Colorado River corridor below Gore Canyon, then future water developments could potentially reduce the flows to the instream flow level. This could stress or reduce the riparian vegetation. The concerns for maintaining or increasing the scattered tree canopy could be heightened.

Mitigation: None

Finding on the Public Land Health Standard #2 for Riparian Systems: The riparian corridor is considered to be meeting Land Health Standard #2. The Proposed Action and the No Action Alternative are not expected to directly impact the area's ability to continue to meet the Standard. Under the No

Action Alternative, if flows drop below the flows necessary to support existing riparian, then the standard would not be met. If increased recreational use begins to impact the riparian vegetation near the proposed structure, then additional management actions may be needed.

3.3 SPECIAL STATUS ANIMAL SPECIES

Affected Environment: This species was removed from the threatened and endangered species list in June of 2007 but reserves protections under the Bald and Golden Eagle Protection Act (BGEPA) of 1940 and remains a BLM sensitive species. The BGEPA prohibits "take" of bald eagles and is punishable by criminal penalties. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

"Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

Eagles have known to nest in the project vicinity in the past and a successfully fledged at least one eaglet on a nest approximately 1.4 miles from the project site in 2014. Another eagle nest closer to the project site appears to have been abandoned in recent years. Eagles will abandon nests or experience decreased nest success or failure for a variety of reasons including increased human activity if disturbed for a prolonged period. Ponderosa and cottonwood trees of the Pumphouse area provide important roosting and hunting perches along the Colorado River in the winter when ice restricts access to fish in smaller streams.

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects:

Bald Eagle (*Haliaeetus leucocephalus*): Direct impacts to this species include the construction of this structure in January when a bald eagle pairs initiate or reinitiate courtship for the breeding season. Heavy equipment use and associated activities could disrupt these behaviors and cause a bonded pair to establish territories elsewhere or establish an eyrie (nest) in an alternate location as these birds have a high rate of nest site fidelity due to the construction and maintenance costs of building a large eyrie. Ancillary activities such as perching and fishing may also be disrupted near the proposed project during construction as eagles have been known to reside in this area year round.

During the construction time frame of the project, decreased water clarity could make prey fishing by these eagles difficult approximately 200 feet downstream. If poor water clarity persists during this timeframe, then eagles would likely need to become more dependent on other food sources such as carrion in upland winter habitats or utilize other stretches of the river. Restricted fish passage as a result of the structure may fragment populations of prey fish for eagles upstream of the proposed project thus limiting habitat suitability. Additional indirect impacts include disturbance to nesting pairs from expected increased and concentrated use of the project area which would likely discourage fishing and roosting by these birds. While these actions would likely discourage breeding activity in the immediate

vicinity, it would be less likely to negatively impact the nesting pair further downstream that have a better level of seclusion from the project area.

Cumulative Effects: Increased public use of this localized area may further displace existing recreational uses occurring at the project site further into existing and potential eagle breeding, hunting and nesting areas. These effects have the ability to alter eagle behavior and nest success (Steidl and Anthony 2000). Cumulative impacts may have the potential to discourage eagles from using the vicinity.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Under this alternative no water structure would be constructed and therefore no further impacts to bald eagles would be expected.

Cumulative Effects: None

Mitigation: None

Finding on the Public Land Health Standard #4 for Special Status Species:

Bald Eagles are a long lived species and have a high nest site fidelity year after year. For unconfirmed reasons, the nest site near Pumphouse was abandoned as late as 2011. While this is discouraging, nesting eagles still persist in proximity to the project and may have relocated to a more appropriate site. Whether directly, indirectly, or cumulatively the proposed action may have the potential to eliminate breeding eagles from the area which would result in failure to meet Land Health Standard 4 for Special Status species. Monitoring would take place prior, during, and post project to evaluate eagle disposition in the area relative to the project.

3.4 SPECIAL STATUS PLANT SPECIES

Affected Environment:

Harrington's Penstemon (*Penstemon harringtonii*): This globally rare forb species requires protection as it is a BLM sensitive species. It is a species that is believed to be perpetuated by disturbance and grows on dry land sagebrush benches, pinyon juniper woodlands, and rock outcroppings of the Upper Colorado River watershed and its tributaries. A number of colonies are located in the surrounding vicinity of the proposed project.

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects:

Harrington's Penstemon (*Penstemon harringtonii*): Impacts to this plant during project construction are likely to be avoided as these plants would be dormant in the November through January timeframe. The proposed construction would primarily take place next to and inside the river channel outside of known populations' locations. Staging equipment and supplies in designated sites such as the existing parking lots would avoid known populations and any impacts to the plants.

Indirect impacts could be realized if heavy increases in recreational activity occurs as a result of the proposed action. Increased traffic, un-authorized dispersed camping, and off route use during the growing season may have the ability to take individual plants or colonies.

Cumulative Effects: Increased concentrated use at the site of the proposed structure may displace other uses into Harrington's Penstemon habitat and potentially trample individuals or colonies.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: No impacts to Harington's Penstemon are expected from this alternative

Cumulative Effects: None

Mitigation: None

Finding on the Public Land Health Standard #4 for Special Status Species: The proposed action is unlikely to impact Land Health Standard 4 for Harrington's Penstemon in the immediate future. Indirect and cumulative impacts may warrant an adaptive management approach to meet this standard in the future if recreation use of the project area exceeds the current supporting infrastructure.

3.5 MIGRATORY BIRDS

Affected Environment: The project area provides both foraging and nesting habitat for a variety of migratory birds that summer, winter, or migrate through the area. BLM Instruction Memorandum No. 2008-050 provides guidance toward meeting the Bureau of Land Management's (BLM) responsibilities under the Migratory Bird Treaty Act (MBTA) and the Executive Order (EO) 13186. The guidance directs Field Offices to promote the maintenance and improvement of habitat quantity and quality, to avoid, reduce or mitigate adverse impacts on the habitats of migratory bird species of conservation concern to the extent feasible, and in a manner consistent with regional or statewide bird conservation priorities. The MBTA prohibits the "take" of a protected species. Under the Act, the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The USFWS interprets "harm" and "kill" to include loss of eggs or nestlings due to abandonment or reduced attentiveness by one or both adults as a result of disturbance by human activity, as well as physical destruction of an occupied nest. The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973." The "*Birds of Conservation Concern 2008"* (USFWS 2009) is the most recent effort to carry out this mandate. The conservation concerns are the result of population declines -naturally or human-caused, small ranges or population sizes, threats to habitat, or other factors. Although there are general patterns that can be inferred, there is no single reason why any species was on the list. Habitat loss is believed to be the major reason for the declines of many species. When considering potential impacts to migratory birds, the impact on habitat includes:

1) the degree of fragmentation/connectivity expected from the proposed project relative to before the proposed project; and

2) the fragmentation/connectivity within and between habitat types (e.g., within nesting habitat or between nesting and feeding habitats.

Continued private land development, surface disturbing actions in key habitats (e.g. riparian areas) and the proliferation of roads, pipelines, power lines and trails are local factors that reduce habitat quality and quantity for many species.

Birds on the BCC list that have been documented or could occur in the project area include: Bald eagle (analyzed in Special Status Section), golden eagle, prairie falcon, flammulated owl, Lewis's woodpecker, pinyon jay, juniper titmouse, Grace's warbler, and Cassin's finch. Bald eagle nesting and peregrine falcon nesting have been recorded in the vicinity of the project.

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects: Effects to migratory species are expected to be minimal as construction activities would occur outside the main breeding season of May 15th to July 15th. Direct effects of use of this structure would be difficult to quantify as breeding and nesting would likely be selected for elsewhere as other suitable habitat exists throughout the Colorado River corridor. Very little vegetation would be taken as a result of the project and allow for ample MBTA habitat to persist. Increased and concentrated use of this structure is an expected outcome that could discourage breeding and nesting behavior in the immediate vicinity. Other indirect effects may arise from unintended sediment flows from the project that may decrease macro-invertebrate populations that some insectivorous birds depend on.

Cumulative Effects: There are no anticipated cumulative effects to migratory bird from this action combined with other land uses of the area.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There are no direct or indirect effects to migratory birds anticipated from this alternative

Cumulative Effects: None

Mitigation: None

3.6 AQUATIC WILDLIFE

Affected Environment: The project site is located within the Colorado River adjacent to BLM's Pumphouse Recreation site approximately 200-feet above boat launch #2. This portion of the Colorado River is currently unaltered and contains two important recreational fisheries, a robust resident brown trout (*Salmo trutta*) population, and an increasing rainbow trout (*Oncorhynchus mykiss*) population. In addition, this portion of the river contains mountain whitefish (*Prosopium williamsonii*), white sucker (*Catostomus commersonii*), longnose sucker (*Catostomus catostomus*), and native mottled sculpin (*Cottus*

bairdii) and speckled dace *Rhinichtys osculus*). Incidental species that could occur in small numbers include cutthroat trout and brook trout. A large productive riffle located several hundred feet below the project location serves as important spawning habitat for resident trout.

This area of the Colorado River also contains an important aquatic insect assemblage. In particular large numbers of the giant stonefly *Pteronarcy's californicus* (*Pc*), commonly referred to as the Salmon Fly, reside in this river reach. In addition, numerous mayflies, caddis flies, and other stoneflies are common in this productive river reach. The large riffle below boat launch #2 is a Colorado Parks and Wildlife study site for the *Pc* stonefly. Aquatic insects are important indicators of water quality and stream health as well as food sources for fish.

Environmental Consequences of the Proposed Alternative:

BLM would grant a right-of-way to Grand County and authorize the construction of an artificial wave feature/structure or white water park (WWP). A structure is needed to fulfill Grand Counties Recreational In-Channel Diversion (RICD) conditional instream flow water right. The instream flow water right is an important tool in helping to ensure that river flows are maintained within an identified reach. Although junior when made absolute, the water right would help protect a substantial river reach in Grand County from future water development activities. River flows are important in protecting and maintaining river habitats and associated aquatic species including fish and aquatic invertebrates. The water rights associated with the eventual construction of Grand Counties RICD structure will help to maintain flows and aquatic habitats in the Colorado River down to the point of the structure. This will benefit all resident aquatic species found within the river segment.

The primary concern with the proposed action is the RICD structure itself and the potential for adverse environmental and ecological effects. The primary concerns are 1) construction related impacts associated with the building of the structure with heavy equipment in the channel, placement of fill material, and bank alteration at the site, 2) the structure itself once built and likely impacts to upstream fish movement, habitat fragmentation, and displacement of fish from the site.

Construction Impacts: The primary concern regarding construction impacts is the suspension of fine sediments and increased turbidity as heavy equipment excavates the river channel and adjacent river banks and places the large amounts of fill material to construct the WWP feature. Suspended sediments and increased turbidity impact trout by reducing water clarity which impacts the ability of trout, which are site feeders, to detect and capture food prey items. Fine sediments can also impact trout by smothering spawning substrates, reducing their usability. Where fine sediments settle out in slower velocity pool habitats these sites can be impacted as pool depths are reduced which reduced holding and over summer and over winter refugia areas. Since work is planned for the fall, the primary impacts associated with construction would be to brown trout which are a fall spawning species. As a design feature, construction would not begin until November 15 which should reduce impacts to spawning brown trout as it is largely after the spawning period for this species is completed. It is likely that any reds (eggs in the gravel) built by brown trout within the construction footprint would be eliminated prior to hatching and swim up. This will be limited in scope and intensity given the relatively small footprint of the structure relative to spawning habitat the best of which is located at a downstream riffle.

Fine sediments can impact aquatic insects as the interstitial spaces and substrates surfaces in which they reside are covered in downstream reaches below the construction site where sediments settle out. Heavy

equipment in the channel and excavation of native channel substrates would result in the suspension of aquatic insects into the river channel and the crushing and killing of aquatic insects within the construction footprint. These effects would be limited in scope and intensity given the relatively small construction footprint. Aquatic insects would expect to reoccupy impacted habitats within a few months post construction via downstream drift from unaltered upstream river reaches. Sediment and turbidity related impacts would be short-term and of limited intensity or duration as flows within the Colorado River are sufficient to effectively move the large sediment loads naturally occurring within the watershed. Post construction spring flows in 2015 would effectively move and redistribute sediment within and below the project site. In addition, the design features utilizing turbidity curtains and/or aqua dams should help to limit turbidity and suspended fine sediment impacts.

Structure Impacts: A pilot study conducted by Colorado Parks & Wildlife (CPW) found low fish biomass within a WWP as compared to natural control reaches despite the presence of created pools. Suspected causes for reduced biomass include impaired fish passage, reduced food production (aquatic invertebrates) due to degraded riffle habitats, and intensive human use at the structure. Fish passage was identified as a primary concern at the CPW study site based on measured water velocities (greater than 10 feet per second) which exceeds the swimming speed of several species and size classes of resident fishes. The presence of a passage barrier could potentially have effects extending beyond the local scale of a WWP (Lucas and Baras, 2001). This is a concern at the proposed site given the otherwise unfragmented and healthy river reach in which the structure is proposed.

The structure as proposed would span the entire river width at the project site. The goal of the structure is to create a hydraulic jump and a play wave that under varying flow regimes creates recreational whitewater opportunities. The primary concerns of the structure are its ability to allow continued upstream passage and movement of resident fish species of all age-classes at all flow regimes across or through the structure so as to limit habitat fragmentation. The four primary hydraulic factors that can directly limit upstream fish passage are flow velocities, water depth, total drop height, and turbulence. Other concerns include lateral channel stability and potential for lateral scour and impacts to riparian vegetation and bank habitats. Maintenance of river banks and riparian vegetation is important to limit erosion and sedimentation and turbidity impacts. Trout are particularly sensitive to increased sedimentation and turbidity. The ability of the river to continue to effectively transport sediment across or through the structure is also of concern as accumulated sediment associated with the structure could reduce aquatic invertebrate productivity and impact fish spawning habitats. Sediment can smother spawning substrates and fill in interstitial spaces used by small fish and aquatic insects. The distance of increased flow velocities and shear stress effects downstream of the structure is also of concern given the location of the important spawning and bug production riffle and study site for (*Pc*). Increased shear stress can move bed material, and scour the channel resulting in reduced aquatic insect productivity.

Based on modeling, it does not appear that the structure would cause shear stress related river channel impacts beyond a few hundred feet downstream of the structure. Thus, the large riffle located below boat launch #2 should be largely unaffected. This would maintain spawning habitat and important aquatic invertebrate production habitats. It is likely that for an anticipated distance of about 200 feet below the proposed structure, the shear stress and velocities would alter the stream channel likely reducing aquatic habitat quality for fish and aquatic insects. Based on designs, it does not appear that sediment

aggradation would occur either above or below the structure. This would help to keep river substrates clean and productive.

The structure would require the placement of several hundred large boulders and five pre-cast concrete structures across the channel. These are needed to obtain the large changes in flow velocity, depth, turbulence, and hydraulic drop needed to create the desired hydraulic jump. This would result in constriction of river flow, increased flow velocities, and reduced river depths over the structure. This would likely create some amount of velocity barrier to upstream fish movement across the majority of the structure. The design does call for a small area (2.2% of the channel width) for improved fish passage on river right. At this area, the change in water elevation from top to bottom is <1foot at modeled flows of 600 and 860 c.f.s. and would occur over a distance of 7 feet. Modeled flow velocities over this small portion of the structure would not exceed 7.2 feet/second at the modeled flows. Based on the known swimming abilities and burst speeds of brown and rainbow trout, it appears that this portion of the structure would provide for upstream movement of adults and most juveniles of both species. However, as noted, this represents only 2.2% of the overall channel width. The remaining 97.8% of the structure would have largely undetermined impacts to resident fishes ability to move upstream over or through the structure.

Sculpin utilize stream bottom substrates and hide, forage, and move amongst the interstitial spaces provided by native channel substrates in this case primarily cobbles. They are not strong swimmers and need velocity breaks in which to successfully make upstream movements. Shallow river margins and native stream substrate serve to provide roughness and velocity breaks that help to allow for movement. Designed channel constriction would likely remove the shallow, slower velocity river margin habitats at the site. Sculpin would be forced to negotiate the structure to move upstream. Given the design and materials to be used, there may be some areas where upstream movement could occur. Roughness on the bottom of the channel helps to provide lower velocity flow areas where fish can move. However, these areas would be limited and reduced in abundance as compared to native river channel conditions. It appears that velocities would increase near the bottom of the fish passage channel on river right. While this channel may help to facilitate trout passage it may not provide for improved sculpin movements.

A potential consequence of the structure at the proposed location is the creation of a population "sink". The structure is approximately 1 mile downstream of the mouth of Gore Canyon a high gradient Class 5+ rapid river segment that contains no spawning habitat for trout. Movement data on resident fishes in or near the project site is not available. However, any fish in the river reach from the mouth of Gore Canyon to the structure site that move downstream over the structure and can't move back upstream could create a net loss in abundance and biomass. In essence, the mile of river between the structure and the mouth of Gore Canyon could see reduced densities of fish over time. As noted, this is exacerbated by the lack of suitable spawning habitat upstream of this mile reach in Gore Canyon. It is likely that adult fish move both upstream from the mouth of Little Gore Canyon and downstream from the mouth of Gore Canyon to spawn in the riffle habitats located just below the structure location.

The study of WWPs and their affects to upstream movement of fish is limited. In addition, predicting passage at a particular structure based solely on design is also difficult given the varying factors that influence the ability of select species to move upstream and the varying flows and flow mechanics associated with any particular structure. The majority of the structure as proposed would have unknown

fish passage effects. Based on the design, the structure would not create a complete upstream movement barrier to all species or size classes of resident fish at all flows. However, the ability of fish, particularly smaller size classes of trout and the two native species sculpin and dace, to move upstream across the structure would be suppressed vs. current native river conditions. Reduced movement results in habitat fragmentation as fish can no longer readily move amongst preferred feeding, spawning, nursery, and juvenile habitats. Given the largely unknown impacts associated with individual structures and their ability to pass fish as well as the limited ability to predict the degree or severity of impacts on fish passage, the design features include monitoring of the structure and requiring modifications if the fishery is negatively impacted.

Cumulative Effects: Within the project area and watershed, several actions are ongoing and reasonably certain to continue including various recreation activities (hunting, fishing, float boating, hiking, camping, site seeing, and mountain biking among others), livestock grazing, ranching, forest management, range management, irrigation, municipal water use, vegetation projects, and human habitation in the form of several small towns. Many of these activities are impacting aquatic species and their habitat to some degree. Water withdrawals and diversions for ranching, irrigation, municipal use, and trans-basin diversions are the most impactful activities.

The proposed action should benefit aquatic species and their habitats given the water rights associated with the structure. This would help to preserve flows and protect a substantial river reach from future water related actions. The structure would have some minor cumulative impacts as some fish passage concerns, and aquatic insect concerns would have undetermined effects to resident fish and macro-invertebrates. Given the breadth of activities occurring and expected to continue to occur in the watershed, the project overall should contribute minor cumulative impacts to aquatic species and their habitats.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Under the No Action alternative, no right-of-way would be granted to Grand County to construct a wave feature/whitewater park. No RICD structure would be constructed, and the conditional water right would not likely be made absolute. Although a junior water right, the No Action alternative would reduce protection on a large section of the Colorado River in Grand County. It is possible that future projects could occur that would divert more water from the river to the detriment of aquatic species and their habitats. Impacts associated with the structure would not occur to fish or aquatic insects or their habitats, and the river would continue to flow naturally at the proposed project site.

Cumulative Effects: None

Mitigation: Due to the largely unknown degree of impact to aquatic wildlife, the Proposed design features have been modified to include monitoring and adaptive management to help insure that aquatic habitat and populations are not adversely affected by this proposal.

Finding on the Public Land Health Standard #3 for Plant and Animal Communities:

The fisheries population is currently healthy and considered to be meeting Standard #3. The potential impacts from the Proposed Actions, however, are difficult to predict. The implementation of the RICD water right would help benefit the populations. Monitoring and

adaptive management are proposed to insure that the fisheries continues to meet Land Health Standard #3.

3.7 TERRESTRIAL WILDLIFE

Affected Environment: The project area supports a wide variety of terrestrial wildlife species that summer, winter, or migrate through the area. The habitat diversity provided by the broad expanses of sagebrush, mixed mountain shrub, aspen, pinyon-juniper woodlands, other types of coniferous forests and riparian/wetland areas support many species. The current condition of wildlife habitats varies across the landscape. The habitats at project site have been historically altered from homesteading activities and more recently the area has been converted into parking lots, campsites, restrooms and other related infrastructure associated with the Pumphouse recreation site. Habitat treatment have also been conducted in the area to support wintering big game,

Resident Raptors and Other Birds: Birds of prey (eagles, falcons, hawks, and owls) may migrate through the area or nest in cottonwoods, ponderosas or other conifers along the bench approaching the river, where numerous songbirds and small mammal populations provide the primary prey base. Common raptor species in the KFO include the: red-tailed hawk (*Buteo jamaicenis*), golden eagle (*Aquila chrysaetos*) American kestrel *(Falco sparverius)*, great horned owl *(Bubo virginanus)*, Cooper's hawk *(Accipiter cooperii)*, and sharp-shinned hawk *(A. striatus)*. Passerine (perching) birds commonly found in the area include the: American robin (*Turdus migratorius*), pinyon jay (*Gymnorhinus cyanocephalus*) western scrub-jay (*Aphelocoma californica*), and black-billed magpie (*Pica pica*). Dusky grouse (*Dendragapus obscures*), are found throughout the KFO. Numerous streams, rivers, reservoirs, ponds, and associated riparian vegetation provide habitat for a wide variety of waterfowl and shorebirds. Common species include: great blue herons (*Ardea Herodias*), Canada geese *(Branta canadensis)*, mallards *(Anas platyrhynchos)*, pintail *(A. acuta)*, gadwalls *(A. strepera)*, and American wigeon *(A. americana)* are common.

Mammals. Numerous small mammals reside within the project area, including ground squirrels *(Spermophilus* spp.*)*, chipmunks (*Neotamias* spp.), rabbits *(Sylvilagus* spp.), skunks *(Mephitis mephitis)*, and raccoons *(Procyon lotor)*. Many of these small mammals provide the main prey for raptors and larger carnivores. These species are most likely to occur along the drainages, in pinyon-juniper woodland, or in the small area of aspen and spruce/fir. Larger carnivores expected to occur include the bobcat (*Lynx rufus*) and the coyote (*Canis latrans*). River Otters (*Lontra Canadensis*) are known to use nearby reaches of the Upper Colorado River and could possibly use the 0.25 mile section of river the proposed project is in. Black bears (*Ursus americanus*) make use of chokecherries and serviceberries for cover and food, while mountain lions (*Felis concolor*) are likely to occur during seasons when mule deer (*Odocoileus hemionus*) are present.

Big Game. The mule deer *(Odocoileus hemionus)* is a recreationally important species that is common throughout suitable habitats in the region. Currently the Colorado River watershed between Gore Canyon and State Bridge is believed to winter the majority of mule deer from middle park DAUs and remains the only herd in the state that is at or slightly above herd objectives. Another recreationally important big

game ungulate (hoofed animal), the Rocky Mountain elk *(Cervus elaphus nelsonii)*, is also present and is currently exceeding state herd objectives. A small herd of approximately 40 Rocky Mountain big horn sheep (*Ovis canadensis*) have been known to occupy Inspiration Point and Flats particularly in the spring time just adjacent to the proposed project. Big game species of this area usually occupy higher elevations, forested habitat, during the summer and then migrate to sagebrush-dominant ridges and south-facing slopes at lower elevation in the winter. BLM and state lands provide a large portion of the undeveloped winter range available to deer, elk, and bighorn sheep.

Reptiles and Amphibians. Reptile species most likely to occur in the project area include the western fence lizard (*Sceloporus undulatus*) and gopher snake (bullsnake) (*Pituophis catenifer*) in xeric shrublands or grassy clearings and the western terrestrial garter snake (*Thamnophis elegans*) along creeks/riparian areas. Other reptiles potentially present along creeks, although more commonly found at lower elevations than the site, are the milk snake (*Lampropeltis triangulum*) and smooth green snake (*Opheodrys vernalis*).

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects: The majority of terrestrial species would likely not be impacted by the proposed action. However, big game species would be coming off of the major rifle hunting seasons and transitioning to winter habitat when the project construction would take place. Elk are more resilient to colder temperatures and more wary of human activity which would make it likely for them to avoid the project site for most of the construction time frame. Mule deer are more dependent on these areas in the winter months making them more susceptible to stresses associated with heavy machinery use and ambient noise from the project area. Thousands of deer that overwinter in the Radium valley (Andy Holland, CPW pers. comm.), any additional disturbance in this normally undisturbed area could have detrimental effects to herd numbers if animals are pushed into more marginal habitats. However, according to the Middle Park Habitat Management Plan of 2010 reporting on monitoring data that demonstrated the habitat has supported both big game and livestock use over the past 15 years without being adversely impacted. Big game numbers are meeting or exceeding herd objectives as described by the D-8 and E-12 data analysis unit plans (http://cpw.state.co.us). Although negative impacts could be realized by the proposed action, the short duration of the project and the larger extent of resilent and available habitat in the surrounding are unlikely to impact herds to the extent that population objectives would no longer be met under these plans. Indirect effects to terrestrial species should be minimal to the small footprint and relative duration of the proposed action.

Cumulative Effects: This action combined with the ongoing sequence of hunting seasons may further contribute to the stress of big game and further exacerbate the direct and indirect impacts described in the preceding paragraphs. Due to the small footprint and duration of the proposed action, impacts to terrestrial life would be minimal.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no impacts to terrestrial wildlife as a result of this alternative.

Cumulative Effects: None

Mitigation: None.

Finding on the Public Land Health Standard #3 for Plant and Animal Communities:

Sagebrush communities of the area have been heavily manipulated from historic land management and have largely been converted to crested wheatgrass at the project site. Although land health standards are meeting in this area, pinyon-juniper woodlands are generally unproductive and provide little feed or browse for big game species during long winters in the Colorado River valley. Given these vegetative restraints and the concentration of big game use in the area, Land Health Standard Three may be impacted by the proposed action. However, due to the short duration of the project and the long term resiliency demonstrated by the Upper Colorado Habitat Management Plan, it would be difficult to tie this action to a landscape scale vegetative change causing failure of this standard. This action is not expected to impact Land Health Standard Three.

3.8 VISUAL RESOURCES

Affected Environment: Pumphouse Recreation Site is within the Upper Colorado River Special Recreation Management Area (UCR SRMA) and in a Visual Resource Inventory (VRI) Class II area. Since the 1984 Resource Management Plan did not designate Visual Resource Management (VRM) areas, the BLM manages visual resources to protect the VRI by applying management class objectives to the inventory. The Pumphouse Recreation Site currently has parking, concrete and dirt boat launches, three separate launch areas, two campgrounds (two group sites and 18 individual sites, each with picnic tables, metal fire rings, and tent pads), 12 vault toilets, day use areas (with picnic tables), fencing, information boards, and fee kiosks.

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects: The Proposed Action would include construction operations and long-term placement of natural materials in locations where they do not currently exist. The Pumphouse Recreation Site was inventoried as a VRI Class II area, which does not include human-created structures as dominant or in the foreground. Placement of these natural materials at Pumphouse Recreation Site would change the existing river bank but the casual observer would probably not notice the difference. Development of the Proposed Action would alter less than 150 feet of river shoreline out of the 78 miles of shoreline in the UCR SRMA. The casual viewer may notice a difference in the shoreline within close proximity of the Proposed Action.

Cumulative Effects: Pumphouse Recreation Site has been a heavily used boat launch and campground for over 30 years. Two boat launches (Launch 1 and 2) have been established since the early 1980s at the recreation site. In 1984, a third boat launch (Launch 3) with additional restrooms was built. Over the past 10 years, upgrades to the recreation area have had some impacts to visual resources. The recreation site has expanded from 10 individual campsites and one group site to 18 individual campsites and 2 group campsites. Other minor improvements include adding a boat slide with stairs at Launch 2, widening Launch 3 and adding a sidewalk, and building a shade structure by Launch 3. Parking areas have slowly expanded and with current use and the proposed alternative, additional parking would be needed. Currently, there are between 5 to10 days a year that finding a parking spot at Pumphouse is problematic. This is typically not for the entire day, but before the permitted shuttle outfitter moves

vehicles to the downstream take-outs. This congestion could be reduced if additional shuttle outfitters were permitted. Until 2013, there has been a moratorium on issuing shuttle permits. It is anticipated that in 2015 there would be more than one permitted shuttle outfitter for the Pumphouse Recreation Site.

The Kremmling Field Office has been talking about developing a parking area near Launch 3. With the increase in recreationists from the Proposed Alternative, two or more additional parking areas may be needed. This would increase the visual contrast at Pumphouse Recreation Site by changing the form, line, color and texture from native vegetation to hard packed gravel parking lots. Increased use at Launch 2 restrooms could justify the need for additional toilets (currently there are 2 vault toilets). The toilets would more than likely be placed next to the existing toilets but would add to the total visual contrast of the recreation site. If recreation users start to put-in at Launch 1 to run through the Proposed Alternative and take out at Launch 3, a foot trail between Launch 1 and Launch 3 would need to be built. There is very little land available for a trail in between Launch 1 and Launch 2 and potentially major dirt work would have to be completed.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: The No Action Alternative would not include new human-created construction.

Cumulative Effects: None

Mitigation: No mitigation is required. See design features.

3.9 FLOODPLAINES, HYDROLOGY, AND WATER RIGHTS

Affected Environment: The proposed action would be constructed on a reach of the Upper Colorado River. This segment of the river is straight and wide with moderate valley confinement that limits the width of the floodplain. The segment is considered to be in fair to good condition for overall channel stability, water quality, and available flows to sustain sediment transport and environmental values. The segment's hydrograph was historically reflective of the mountain snowmelt, with high spring runoff dropping to low late summer flows. Trans-mountain diversions and reservoir operations increasingly determine the magnitude and timing of flows, although snowmelt is still the source of the flows. For whitewater recreation, upstream reservoir releases to meet downstream senior water right calls have provided a relatively dependable summer season. The Shoshone (Glenwood Canyon area) water rights and the Cameo (Mesa County area) water rights call for downstream water have generally resulted in mid to late July reservoir releases, indirectly benefitting recreation below Gore Canyon.

The Upper Colorado's physical proximity to the Colorado front range has resulted in trans mountain diversions that remove more than 60% of the Upper Colorado's flow. In response to several pending and potential future water actions, including the Moffat and the Windy Gap Firming Projects, the Colorado River Cooperative Agreement was signed in 2012 by Denver Water Board and West Slope entities. In the Grand County section of the main agreement, the Denver Water Board agreed to not opposed an instream flow filing for this segment of the Colorado River and a RICD flow filing that do not directly impact Denver's water rights. In January, 2014, an instream flow right was decreed for the

Colorado River segment starting at the Blue River confluence and extending down to the Piney River's confluence. In addition to this right, Grand County obtained conditional water rights for four RICDs, including one for the "Launch Counter" structure, which is at the same location as the Proposed Action in January of 2014. The water right decree found that , "With water that Grand County makes available to the Colorado River for recreational use at the Gore Canyon Whitewater Park under other water rights decreed for such recreational use, Grand County shall have the ability to deliver and protect such water to increase otherwise existing flows to achieve flows between 500 c.f.s. and 2,500 c.f.s. for recreational use between April 1 and October 15, but Grand County shall not have the right to place a call for water at the Gore Canyon Whitewater Park except under its recreational in-channel diversion water rights….However, the Court finds that below a flow rate of 500 c.f.s., there is no longer any beneficial use of water at the Gore Canyon Whitewater Park under this decree. " Terms and conditions in the water right decree also state that the hours of operation are 6:00 am to 8:00 pm. Grand County may place a call, provided that the call would produce at least 85% of the flow rate during the hours of operation.

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects: The RICD water right is currently conditional until a structure is able to "manage" the decreed flow and Grand County obtains an absolute water right from the court. The right is not additive to the instream flow right and is junior, having been decreed in 2014 and having a 2010 appropriation date. This segment of the river could still experience flows below 850 c.f.s. (the RICD right) and below 500 c.f.s. (the instream flow right), depending on the initial amount of water in the river and the calls placed by senior water rights. The Wild and Scenic Stakeholders' Group and the parties to the CRCA, however, would strive to meet the minimum flows to help protect the ORVs. This RICD allows Grand County to place a call on the river, helping insure that new or future water uses would not result in flows below the minimums needed to support the recreational and environmental values in this segment.

During construction, some increase in turbidity and bank erosion could occur. The ROW application includes best management practices (BMPs) that would be used to reduce any water quality impacts to the river, including a coffer dam, silt fences, and berms. These design features are expected to keep sediment loading into the river at a minimum. Once the construction is completed, sediment loads and bank erosion is expected to be at pre-project levels or below. The structure's design is intended to prevent bank and bed scour around the structure and to pass existing sediment loads. The downstream hole is intended to be the lowest extent of hydraulic alteration to the channel, above Launch 2 and the "salmon fly" riffle. The structure is submerged under flows of 500 c.f.s. or more. Monitoring of bank stability and downstream riffle stability is recommended to insure that the expected conditions do occur if the structure is approved and that there is no change over time. The Proposed Action does not affect the functionality of the floodplain and does not increase the flood hazard.

Cumulative Effects: Using the Windy Gap Firming Project EIS's Water Resources Technical Report Appendices, the average monthly flows would be decreased from the existing conditions, even if Windy Gap's firming project is not permitted. The projected average flows from May to August are:

	May	June	July	August
Average Year				
Existing	1145 c.f.s.	2619 c.f.s.	1745 c.f.s.	1026 c.f.s.
Projected*	948	2002	1313	953

Dry Year				
Existing	422	473	924	943
Projected	388	348	748	918
Wet Year				
Existing	2231	5885	4725	1694
Projected	1894	4897	3888	1449

Projected flows do include the two firming projects currently in the permitting process.

The Proposed Action would help insure flows do not decrease below the projected levels, and would help environmental flows gained through cooperation with upstream water right owners remain in the Colorado River as it flows through Grand County.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Under the No Action Alternative, BLM would not issue a ROW to Grand County. Grand County would need to pursue one of the other three decreed RICD projects to be able to obtain an absolute water right or potentially lose an opportunity to be able to improve instream flow conditions in the Colorado River. Speculating on what other impacts could result is beyond the scope of this document.

Cumulative Effects: Depending on future water filings and what Grand County does with their RICD rights, the segment of the Colorado River could potentially see flows below environmental and recreational needs, potentially imperiling the ORVs for this segment.

Mitigation: None

3.10 RECREATION

Affected Environment: The Proposed Action is within the Upper Colorado River Special Recreation Management Area (UCR SRMA). Pumphouse Recreation Site is used primarily by river rafters, anglers, and campers. Approximately 60,000 visitors use the site annually. The site is the most heavily used river access along the Upper Colorado River. The season of use at this site is generally Memorial Day through Labor Day. Currently, there are three boat launch areas, parking areas, two campgrounds, potable water, 12 vault toilets, and camp host sites. Use data collected by the BLM Kremmling Field Office suggests 75% of trips on the Upper Colorado River from Pumphouse to State Bridge put in at Pumphouse Recreation Site and take out at Radium Recreation Site. In the immediate area near the Proposed Alternative, there is a small boat launch with a boat slide and stairs leading to the water, two vault toilets, the main parking for both Launch 1, Launch 2 and one of the campgrounds. This parking lot can accommodate 12 vehicles with trailers, 19 vehicles, and 6 additional vehicle spaces that are designated specifically for campsites.

Before Launch 3 was expanded in 2012, most commercial outfitters used Launch 1. There has been a slight shift. decreasing the commercial and private use at Launch 1 due to the larger facilities at Launch 3. The majority of fishing boats (both outfitters and private boats) use Launch 1 because it is easier to launch dory boats and there is good fishing between Launch 1 and Launch 3. The table below shows the

estimated commercial and private use at each of the launch sites at Pumphouse. Commercial use was calculated by companies post use reports and identification of which launch they typically use. Private use was calculated by counting the numbers of visitors self-reported on fee envelopes from self-serve fee stations BLM typically assumes 3 visitors per rafting trip and 2 visitors per fishing trip for envelopes with incomplete information. BLM estimates that 5-10% of people do not fill out the envelope/pay at the fee station. Outfitters and BLM river staff were asked to estimate what percentage of private users use each of the launches.

	Launch 1	**Launch 2**	**Launch 3**
2013 Estimated Commercial Use	60-70% 20,000-25,000	Less than 5% 1000	25-35% 10,000-15,000
2013 Estimated Private Use	30-50% 12,000-20,000	10-20% 4,000-8,000	40-50% 15,000-20,000
2013 Totals for Commercial and Private Boaters	32,000-45,000	5,000-9,000	25,000-35,000

Pumphouse Recreation Site is the busiest launch area in the Upper Colorado River Special Recreation Management Area with 60,000-80,000 visitors between April and October. Most of these visitors use the recreation site between mid-June and mid- August. Unlike many rivers, the Upper Colorado River is busy all week long, not just on weekends. Most commercial rafting/fishing trips occur weekdays because of the destination resorts within an hour drive. Visitors show up at these resorts on Sunday and leave on Saturday. This creates a high demand for weekday river trips. The Upper Colorado River is within a two-three hour drive from the Front Range creating a close rafting/fishing opportunity for overnight private trips. These Front Range visitors typically raft/fish on Friday, Saturday and Sundays.

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects:

Construction: During construction of the proposed structure, Pumphouse Road would have to be maintained and plowed to allow workers and their equipment access to the Pumphouse Recreation Site. As a result of the road being maintained during months that typically people can only walk in to the recreation area (depending on depth of snow), additional facility maintenance may be required. BLM staff would have to monitor the area and, if necessary, clean and stock the restrooms for both construction workers and other visitors, make visitor contacts, and potentially issue citations. Typically from early to mid-October until late April or early May, there are no river seasonal-employees to clean and monitor this area. The Outdoor Recreation Planner would have to do this cleaning and monitoring during this time. The BLM Law Enforcement Officer would probably also have to spend more time in the area during hunting season because of the increased ease of access for camping with vault toilets.

The area near the Launch 2 would have to be closed during construction (portions of the river would remain open at all times) as well as some of the road. Launch 1 (from the shed) and Launch 2 (just below the parking lot) would have to be closed during parts of the construction. There usually is very few visitors to Pumphouse Recreation Site after October until March. The visitors that would go there during this time may be displaced from the Launch 1 and Launch 2 sites. Crowding could happen at Launch 3 but is very unlikely. People walking or wade fishing would still have access to the Launch 1 area and the

Gore Canyon Trail. It is very unlikely that there would be any boats on the river at that time of the year, but if there are boats they would only be allowed to use Launch 3 when the other launches are closed.

Facilities/Facilities Maintenance: The Kremmling BLM has not been able to locate examples of other RICDs or play waves at locations in semi-remote locations such as Pumphouse Recreation Site. It is hard to determine how many additional visitors would recreate at the site if the proposed structure is built. Another impact that is hard to determine is how many current users would spend more time than typical at Pumphouse Recreation Site because of the proposed structure. The proposed structure would increase the number of people to some degree at the recreation site and would attract new and existing visitors to the Launch 2 vicinity. Parking at Pumphouse is currently an issue every weekend. Typically visitors can find a parking spot, just not always close to the boat launch they are using. There are about five to ten days a summer where visitors cannot find a parking spot during certain times of the day. Once the shuttle company moves vehicles down to take-out locations, Pumphouse parking spots open up. Currently, there is only one permitted outfitter to shuttle vehicles. From 2001 to 2013, there was a moratorium on river related permits. The BLM Kremmling Field Office is currently accepting applications for shuttle permittees. Having more than one permitted shuttle outfitter could reduce the parking congestion.

The Kremmling BLM has looked at where additional parking could be placed. Two options would be the center (see map "Pumphouse Recreation Area Launch 3") vegetation island (between the camp host spots and Launch 3) and the field just below Launch 3. While this would add parking to the Pumphouse Recreation Site, it is almost a 1/4 to a 1/3 of a mile from Launch 1. Visitors would typically park in non-parking areas close to where they are launching rather than walk an extra 100 feet. If the BLM adds these parking areas, more visitors could use Launch 3 and be nearer to their parking spot. This would add to the congestion of Launch 3.

A designated trail between Launch 1 and Launch 3 could help with visitors parking in these further away spots. Currently, visitors walk on the main road to get from the parking areas to the boat launches. The main road has a lot of traffic and dust from the vehicles driving by. If there was a nice foot trail, users may be more inclined to walk on it if they have to park further away from their boat launch.

There are two vault toilets near Launch 2. These serve as the main toilets for the upper campground's 10 campsites as well as Launch 2's main. These toilets are poorly designed, requiring frequent pumping. With the increase in visitors at the Launch 2 site, these toilets would need additional pumping. Launch 1 and Launch 3 each have four vault toilets, which are adequate for current levels of use. Depending on the amount of use the proposed structure receives, there could be a need to build additional vault toilets.

Currently, the BLM river staff focuses on Launch 1 and Launch 3 during busy times, because so few people use Launch 2. If the proposed structure was built, staff could have to spend additional time at Launch 2. The proposed structure would be built just off the main road in between Launch 1 and the remainder of the recreation site. This road is very busy and could easily be blocked with vehicles dropping off people, kayaks, SUPs, tubes, etc. If congestion started to create a health and safety issue or the BLM received complaints, BLM staff would need to patrol this location. An additional BLM seasonal may have to be hired to help out with managing the flow of traffic and keeping visitors safely off the road.

Over the past five years, the BLM Kremmling Field Office has worked towards making Pumphouse and Radium Recreation Sites and the some river-side campsites more accessible. We currently have three outfitters that specialize in accessible rafting trips, bringing roughly 2000 visitors through these two recreation sites each year. The proposed structure should follow the BLM's accessibility goals for the Pumphouse Recreation Site.

Currently, most weekends from the middle of June until the middle of August, all campsites are taken. The only campsites able to be reserved are the two group campsites at Pumphouse Recreation Site. These sites are typically reserved weeks if not months in advance. Often a small family would reserve/pay for a group campsite just to ensure they have a spot. Individual sites are not able to be reserved and are on a first come, first serve basis. Typically, by early Friday evening, all individual campsites are taken until Sunday. The Proposed Action could increase camping because people would have another activity to keep them busy for longer periods. There may need to be additional designated campsites added to Pumphouse Recreation Site or within a short drive of the area.

Recreation: The water right associated with the Proposed Action would benefit recreation, both float boating and fishing. The Colorado River is one of the most controlled rivers in the World and more water diversion projects are proposed. Without adequate water supplies, recreational float boating and fishing would not continue on the Colorado River. The Proposed Action would also provide an additional recreational activity at Pumphouse Recreation Site. Gore Canyon kayakers would have a wave to play on while their friends are doing the shuttle. Also, kayakers may camp at Pumphouse Recreation Site because they have a wave to play on after they run Gore Canyon. Families with children would bring tubes and float from Launch 1 to Launch 2 or 3. Float boaters would have an additional wave to go through to get splashed.

The increased use in the river near Launch 2 in the Proposed Action could have potential user conflicts, during peak times, between visitors using the proposed structure and visitors floating through the structure. It is hard to determine what visitors would use Launch 1 so they can go through the proposed structure and which would use Launch 3 to avoid possible congestion. The proposed structure could create more congestion at Launch 1 because people want to have an extra wave on the river. It could also cause more congestion at Launch 3 because people are trying to avoid the proposed structure.

A potential effect is the displacement of fishing from the existing pool where the Proposed Action would be. While recreational fishing would not be restricted, it could be displaced or create conflicts between different users. Another potential effect is the possible decline of fish upstream of the proposed structure due to difficultly of fish passing the structure. Many wade fishermen hike up the Gore Canyon Trail from Launch 1 to fish. This could increase the wade fishing below Launch 3 which could lead to crowding and user conflicts.

The Pumphouse to Radium stretch of river is a mild Class II-III during normal water years. It is a great stretch of river for first timers, families with younger children, people with disabilities, and seniors. The Proposed Action has a blue recreational experience at 1100 c.f.s., a black recreational experience at 1,500 c.f.s., and a double black recreational experience at 2,500c.f.s. Currently, family float trippers would still float up to 2,000-2,500 c.f.s. The proposed structure could be unsafe for these users, requiring BLM staff to contact visitors to discourage inexperienced swimmers floating on tubes or swimming through the proposed structure at these flows.

The proposed structure would draw attention for potential recreational events (e.g., kayak rodeos). Additional inquiries and applications for Special Recreation Permits would have to be evaluated by the BLM Kremmling Field Office. In the Proposed Resource Management Plan, only two large scale SRPs would be issued each year (up to 200 participants). Some events would not be issued permits based on these restrictions.

Cumulative Effects: Cumulative effects from the increased water flow from the proposed structure would benefit the entire Colorado River Basin. Currently, only in very rare case does the Colorado River flow into the sea in the Gulf of California (the Colorado River has not reached the sea since 1960 except a few short periods of heavy precipitation in the 1990's and an experimental release in 2014 (Howard, 2014). Below the proposed structure, new diversions can occur but if other RICDs are built along the entire Colorado River, more water would stay in the river which could benefit all recreation users all the way down to the Colorado River Delta from rafters in the Grand Canyon to fishermen below the Morelos Dam in Mexico.

The construction of the Proposed Action would likely increase the usage of Pumphouse Recreation Site and could add to crowding and possible displacement of recreation users. It is possible that additional congestion would push people to lower stretches. People may move down into the Colorado River Valley Field Office where proposed management of the river is more primitive with fewer visitor facilities and a more natural landscape than proposed management of the Pumphouse to State Bridge stretch of river.

Crowding at facilities could require new facilities to be built, additional recreation staff for monitoring and maintenance, and/or restrictions on use. The proposed management for the Upper Colorado River from Pumphouse to State Bridge is to keep the natural landscape with few modification and not visually obvious. If the Proposed Action is constructed at Pumphouse Recreation Site, it would help keep new modification from being built outside the existing recreation site. New visitor facilities may have to be built to accommodate increase in usage but they would be consolidated into an already existing recreation site.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Under the No Action Alternative, no right-of-way would be granted to Grand County to construct a wave feature/whitewater park. No RICD structure would be constructed, and the conditional water right would not likely be made absolute. Although a junior water right, the No Action alternative would reduce protection on a large section of the Colorado River in Grand County. It is possible that future projects could occur that would divert more water from the river to the detriment of recreational float boating and fishing. This would negatively impact the recreation fishing and float boating through these sections of river in Grand County.

Cumulative Effects: Under the No Action Alternative, the proposed structure would not be constructed, and the conditional water right would not likely be made absolute. While a small of water up to 2,500 c.f.s., compared to the c.f.s.in the entire Colorado River Basin, any little amount of water that is kept in the river for recreation is a benefit for all float boaters and fishermen.

Mitigation: None

3.11 WILD AND SCENIC RIVERS

Affected Environment: In 2007, the Kremmling Field Office completed the eligibility phase of a Wild and Scenic Rivers (WSR) evaluation as part of the Resource Management Plan (RMP) revision process. A total of 15 segments in the Kremmling Field Office were found eligible. The next step of the WSR process was to evaluate eligible segments for suitability. The 2011 suitability report found two of the eligible segments in the Kremmling Field Office to be suitable. These segments are both on the Colorado River; Segment 4 runs from the head of Gore Canyon to Pumphouse Recreation Site and Segment 5 runs from Pumphouse Recreation Site to State Bridge. The Proposed Action is located in Segment 5 and has a preliminary classification of Recreational with five Outstandingly Remarkable Values (ORVs). These ORVs are: recreational (fishing, float boating, scenic driving, and other), wildlife (bald eagle and river otter), scenic, geologic, paleontologic, and historic (early hydroelectric projects, early copper mining, Brass Balls Mine/Cable Rapids Cabin, State Bridge, and the Historic Moffat Road). Segment 4 (Gore Canyon) has a preliminary classification of Recreational with four Outstandingly Remarkable Values (ORVs): recreational (fishing, float boating, scenic driving, other), geologic, wildlife (bald eagle and river otter), and historic (Historic Moffat Road, early hydroelectric projects, and a World War II German prisoner of war camp). Some of the qualifications for being designated as a Wild and Scenic River are: there are less than three major diversions or impoundments, overall development in the segment, outstanding remarkable values, and water quality. Currently, all of these requirements are being met on Segment 5.

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects: The Proposed Action is not considered a major diversion or impoundment since water is not being removed from the river or taken and stored outside the river. The Proposed Action would take the channel from its natural state and alter it but it would still be designed to work as a natural channel. The overall development would change very little with the Proposed Alternative in the river corridor. Segment 5 has the preliminary recreation classification and the Proposed Action could encourage more recreation use and would increase the infrastructure at Pumphouse Recreation Site, but it would not change the overall character of the segment. The potential increase in water flows due to the water decree that is associated with the Recreational In Channel Diversion would enhance the recreational ORV for both float boating and fishing.

The Upper Colorado River from Pumphouse to State Bridge has between 60,000-80,000 visitors per year. Only between 8-15% of these visitors are fishermen (both commercial and private), while the rest are float boaters (e.g., rafters, kayakers, Stand Up Paddle Boarders, etc.). The visitors are recreating on the Upper Colorado River because it offers Class II-III whitewater (fantastic for family float trips or novice rafters), it is close to the Front Range, there is no permitting system for private users, and easy access for destination vacations from the ski resorts in the area. For many float boaters, an added wave on this stretch would enhance the recreational experience. Many people that camp at Pumphouse would enjoy the added benefit of a wave feature right at their campsite. Kayakers, tubers, SUPs, surfers, etc. would have an activity to do after their regular day of floating down the river. Kayakers and rafters after running the Class V section of the Upper Colorado River, Gore Canyon, would have the added recreational experience of playing in the proposed structure and potentially camping at Pumphouse.

The proposed structure placed in the river could negatively affect fish habitat and passage, aquatic insects in the immediate area of the structure, and the fisheries upstream of the structure. This could have a

negative effect on the recreational fishing ORV. Many fishermen launch their boats from Launch 1 to fish because of the robust resident brown trout population and the increasing rainbow trout population. There is a large productive riffle located below Launch 2 that serves as important spawning habitat for resident trout. The same riffle is a study site for the giant stonefly *Pteronarc's californicus (Pc).* Based on modeling, it does not appear that the structure would cause impacts in this riffle. The proposed structure would result in constriction of river flow, increased flow velocities, and reduced river depths over the structure. This could be a barrier to upstream fish movement which could reduce the biomass of the fish populations above the structure. Many wade fishermen use the Gore Canyon Trail to access fishing along the Colorado River above Launch 1 to the mouth of Gore Canyon. This section could see reduced densities of fish over time as fish move downstream over the structure and cannot move back upstream over or through the structure.

There could be some short term degradation of water quality during construction but this would stabilize over time. The addition of rocks to build the structure could increase the water temperature in the immediate area depending on the water level and how many rocks are exposed to the sun. There is a possibility of increased sediment that could build up behind the structure further reducing the water quality in the immediate area.

Cumulative Effects: The total length of the suitable Wild and Scenic River segments (including Segment 6 & 7 in the Colorado River Valley Field Office) is 81.7 miles. The Proposed Action would directly affect approximately 800 feet of the river and approximately 100 feet of the river bank.

The structure would have some minor cumulative impacts on the 'recreational' ORV for fishing. These impacts would have undetermined effects to resident fish and macro invertebrates which could reduce the biomass of these species. The increase in river flows would have a positive cumulative effect on the entire Colorado River for all Wild and Scenic Sections.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Under the No Action alternative, no right-of-way would be granted to Grand County to construct a wave feature/whitewater park. No RICD structure would be constructed, and the conditional water right would not likely be made absolute. Although a junior water right, the No Action alternative would reduce protection on a large section of the Colorado River in Grand County. It is possible that future projects could occur that would divert more water from the river to the detriment of aquatic species and their habitats. This would negatively impact the recreation fishing and float boating ORV for Section 4 and 5.

Cumulative Effects: None

Mitigation: None

3.12 ACCESS AND TRANSPORTATION

Affected Environment: The Proposed Action to construct a Recreational In-Channel Diversion (RICD) identified as the Gore Canyon White Water Park would occur at the Pumphouse Recreation Area

within the Upper Colorado River Special Recreation Management Area (UCRSRMA). The Pumphouse Recreation Area provides public access and facilities to access the river and adjoining public lands. Facilities that provide and enhance access to the river and adjacent public lands includes access roads, parking areas, boat launches and trails. Developed camping and restroom facilities are also present at the Pumphouse Recreation Area. The RICD is proposed to be constructed between two boat launches, known as Launch 1 and Launch 2 respectively. A third boat launch known as Launch 3 is located further down river but within the Pumphouse Recreation Area. Visitors and commercial outfitters utilize the launches for float boating access and trails are utilized to access the banks of the river for angling and general recreation such as swimming, hiking and sightseeing etc.

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects: The Proposed Action would have Direct and Indirect Effects to access along the river. When flows are below 2,000 c.f.s., the RICD would limit down river float boating access to two channels. The left channel would create the "Wave" for recreational float boating and the right one would allow for the upstream movement of fish. Although the project area would still be open to non-floatboating recreation, some displacement may occur as the immediate RICD site is occupied by the structure and visitors participating in or viewing new recreational activities at the site. Effects would be dependent on the time of year construction and use would occur, levels of use during the year, and river flow levels.

Construction is proposed to occur between November and December with the potential of extending into January. This would be during a period when the Pumphouse Recreation Area is utilized less for accessing the river and adjacent public lands. Visitors seeking to launch float boating vessels during this time would be displaced to Launch 3 to launch float boating vessels since in-channel construction would likely restrict vessels passage down river at certain times. Assuming that staging and construction areas would be closed to public use, vehicle access along roadways may be restricted and pedestrian access along the river bank would be restricted and displaced to areas above and below the RICD construction site.

Once constructed, vessel access floating from Launch 1 would be restricted to the "Wave" channel and a channel on the north side of the structure allowing for fish passage during most flow levels. While float boaters would be able to safely float through either channel when there are sufficient flows, float boaters may be displaced during periods when the "Wave" is being heavily used. Launch 2 and Launch 3 provide alternative access and launch sites for float boaters, but these locations may be indirectly effected due to increased use and crowding. Additionally, during periods of low flow levels (less than 500 c.f.s.) there may not be sufficient clearance for larger rafts or dory's to pass the structure. During times of low flows, vessels may need to launch below the RICD at Launch 2 and Launch 3. This indirect effect may require improvements or expansion of Launch 2 and Launch 3. Pedestrian access would not be restricted at the RICD site and other recreational activities that require river access would still occur. Increased use at the RICD may displace other uses such as fishing access however there is ample fishing opportunities and access throughout the Pumphouse Recreation Area. While there would not be any loss of parking access within the Pumphouse Recreation Area, it is assumed that there would be increased use that would create greater demand for parking in and around Launch 1 and Launch 2, displacing parking to Launch 3 or along roadways. An indirect effect may be the requirement to develop additional parking facilities within the Pumphouse Recreation Area.

Cumulative Effects: Cumulatively, the construction of the RICD would likely increase the popularity and usage of the Pumphouse Recreation Area, creating displacement of river access and parking facilities to other locations within Pumphouse Recreation Area during certain times of the year when there is high use or low river flows. While there are other locations within Pumphouse Recreation Area to access the river or park, it can be assumed that this displacement in conjunction with increased use of the recreation area may create crowding at certain locations impacting access and transportation. This may require the expansion of existing facilities or the development of additional facilities to provide sufficient access to the river and adjacent public lands.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Under the No Action Alternative, Grand County would not be issued a ROW and the RICD would not be constructed. While there would be no impacts to the current access and transportation, Grand County's efforts to improve and maintain instream flows would need to find a different location along the Colorado River. If Grand County was unable to perfect their water right and improve or maintain instream flows, access on the river may be indirectly affected when flow levels would not be able to provide float boaters sufficient flows and clearance to access down river stretches.

Cumulative Effects: Cumulatively, the loss of a potential water right for Grand County to improve or maintain flows, and the potential for additional water rights to be filed would limit flows and have a potential effect for accessing down river stretches on the water.

Mitigation: None

3.13 SOCIO-ECONOMIC

Affected Environment: The Pumphouse Recreation Area is a heavily used site for boaters, campers, fisherman and other recreationists. Visitors to this site include tourists from out of area as well as locals from the surrounding communities.

Environmental Consequences of the Proposed Alternative:

Direct and Indirect Effects: Direct impacts from this proposed project include potential increased useage at the Pumphouse Recreation Site, a fee area, and would therefore include increased fees being collected by the Kremmling Field Office. These fees are used directly for the maintenance of recreation sites within the Upper Colorado Fee Area. With this increased useage, it may be possible to expect an increase in need for maintenance such as toilet pumping, road maintenance, and staffing.

Indirect effects from this proposed project may include increased spending at surrounding communities. Increased visitation to this recreation site may include increased spending on such things as vehicle fuel, lodging, groceries, and outdoor equipment. Commercial floatboating and rafting use of the area may also increase with popularity and hence increase commercial profits.

Cumulative Effects: Cumulatively, the expected increase in useage and popularity of water sports in general and development of recreation sites and access along the Upper Colorado River, increase spending within surrounding gateway communities.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: The direct and indirect impacts from not issuing this permit include the loss of the potential water right which may reduce recreation possibilitites at the Pumphouse Recreation Site and associated loss of fee area revenue.

Cumulative Effects: Cumulatively, the loss of the water right for Grand County may reduce income at gateway communities.

Mitigation: None

CHAPTER 4 – REFERENCES

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CHAPTER 5 - CONSULTATION AND COORDINATION

Consultation/Permit Requirements:

Consultation	Date Initiated	Date Completed	Responsible Specialist/ Contractor	Comments
Cultural/Archeological Clearance/SHPO	3/18/2014	7/17/2014	BB Wyatt	The action is a Section 106 action of the National Historic Preservation Act (NHPA).
Native American	3/21/2014	7/17/2014	BB Wyatt	Tribal consultation was initiated because the action is a Section 106 action of the NHPA.
T&E Species/FWS	NP	NP	D Long	No T&E species exist in the project area
Permits Needed (i.e. Air or Water)	10/2013		Applicant	The applicant has submitted an application for a standard individual 404 permit for the project to the Army Corps of Engineers. The applicant has applied for and received Section 401 Water Quality Certification from the Colorado Department of Public Health and Environment. It is their responsibility to obtain necessary permits prior to construction.

Interdisciplinary Review - Determination of Need for Further Analysis

NP = Not Present; NI = Resource/Use Present but Not Impacted; PI = Potentially Impacted and Brought Forward for Analysis**.**

Determination	Discipline/Name	Date Review Comp.	Initials	Review Comments (required for Critical Element NIs, and for elements that require a finding but are not carried forward for analysis.)
NI	Air Quality **Belcher**	7/7/14	PB	The proposed action is located within an area with no known air quality concerns. Vehicle and equipment emissions would occur during the construction process, but are expected to be insignificant due to the small quantity and short duration.
NP	Areas of Critical Environmental Concern **Belcher**	8/11/14	PB	There are no ACECs in the project area that could be impacted directly or indirectly by the proposed action or no action alternative.
NP	Cultural Resources **Wyatt**	7/17/14	BBW	A Class III cultural resource inventory, BLM #CR-14-18 was completed for the proposed action. The proposed action is a **no effect**, there are **no historic properties** that would affected.
NP	Farmlands, Prime and Unique **Belcher**	7/7/14	PB	The Proposed Action and the no Action Alternative are not located on prime and unique farmlands, nor would the action indirectly impact these farmlands.
NI	Floodplains **Belcher**	7/29/14	PB	The Proposed Action and the No Action Alternative would not affect the functionality of the floodplain nor would they increase the flood hazard in the area.

NI	Invasive, Non-native Species **Hughes**	7/28/14	ZH	Only minimal invasive/noxious species of plants are found within the proposed project area. The proposed project area occurs within a heavily recreated site, with already established roads, boat launches, paths, and parking areas. Due to this invasive/noxious weed control and monitoring has become routine within the project area. The chance of existing species to spread or establish would be minimal. No aquatic vegetative invasive species are known to occur within the project area.
PI	Migratory Birds **Long**	7/28/14	DL	See Analysis
NP	Native American Religious Concerns **Wyatt**	7/17/14	BBW	Tribal consultation was initiated March 21, 2014. To date no tribe has identified any area of traditional cultural or spiritual concern.
PI	T/E, and Sensitive Species (Finding on Standard 4**)** **Long**	7/28/14	DL	See Analysis
NI	Wastes, Hazardous and Solid **Elliott**	2/10/14	KE	There are no quantities of wastes, hazardous or solid, located on BLM-administered lands in the proposed project area. Proper condition of equipment for wet channel operations, a designated upland staging location for fueling, with spill containment oiling areas, and the installation of oil booms downstream of the project locale would all be utilized and required as indicated in the project proposal. The incorporated stipulations, BMPs, COAs and the Spill Cleanup Plan would be adequate to ensure that no wastes are generated as a result of the Proposed Action, Preferred Action or the No Action alternative.
PI	Water Quality, Surface and Ground (Finding on Standard 5) **Belcher**	7/29/14	PB	Ground water would not be impacted by the Proposed Action or the No Action Alternative. The segment is meeting Standard 5 for surface water quality. See Floodplains, Hydrology, and Water Rights for discussion of water quality.
PI	Wetlands & Riparian Zones (Finding on Standard 2) **Belcher**	7/29/14	PB	See Analysis.
PI	Wild and Scenic Rivers **Schechter**	7/30/14	HS	See Analysis
NP	Wilderness Lands with Wilderness Characteristics **Monkouski**	7/30/14	JJM	There are no Wilderness, Wilderness Study Areas or areas found to possess wilderness characteristics within the Proposed Action Area.
NI	Soils (Finding on Standard 1) **Belcher**	7/28/14	PB	The Proposed Action would occur in a developed recreational area, with existing parking lots, bathrooms, boat ramps, and access roads. New areas of soil disturbance would occur, but would mostly occur where

				geotextile and rocks would be placed, protecting the underlying soils. Some additional compaction could occur near the structure's south bank where visitors would congregate between the structures and Launch 2, but would not be significant. Soils on a landscape scale are meeting Standard 1 for Land Health. The Proposed Action and the No Action Alternatives do not affect the area's ability to continue to meet the Standard.
NI	Vegetation **Goodwin** (Finding on Standard 3) **Hughes**	7/28/14	ZH	Vegetation would be removed permanently among (.025) acres of the river bank area due to the construction of the boulder Terrance for recreational viewing and boater ingress/egress. The majority of disturbance would occur among riparian vegetation; see riparian section for further analysis. No significant effects are expected for remaining upland vegetation.
PI	Wildlife, Aquatic **Fresques** (Finding on Standard 3)	7/29/14	TF	See Analysis
PI	Wildlife, Terrestrial **Long** (Finding on Standard 3)	7/29/14	DL	See Analysis
PI	Access/Transportation **Monkouski**	7/30/14	JJM	See Analysis
NI	Scenic Byways **Schechter**	7/30/14	HS	The Colorado River Headwaters Scenic Byway is located on Trough Road (Grand County Road 1). Many people driving on the scenic byway drive down to Pumphouse to visit the river, enjoy a picnic, use the toilets, or go for a hike. The addition of this feature could increase the time spent at the recreation site by scenic byway users. This could increase use in toilet, parking, and picnicking facilities. Often these visitors do not pay the use fee because they do not see themselves as 'using' the facility. Additional users without the use fees paid could impact the budget for the recreation site.
NP	Forest Management **K. Belcher**	7/28/14	KB	The Proposed Action occurs within a developed recreation site that does not have forested areas.
NI	Geology and Minerals **Elliott**	2/10/14	KE	There would be no impact to geological or mineral resources from implementing either the Proposed Action, Preferred Action or the No Action Alternative.
PI	Hydrology/Water Rights **Belcher**	7/29/14	PB	See Analysis
NP	Paleontology **Wyatt**	7/17/14	BBW	The proposed action would have no effect to fossil resources.
NI	Noise **Monkouski**	7/30/14	JJM	The proposed action to construct the RICD is short term in duration. Noise levels would increase at times of construction when heavy equipment is being used but would not be

				omnipresent. The closest residence to the construction site is approximately .8 miles to the northeast and would not be impacted by construction noise due to distance and topography. The Pumphouse Recreation Area typically has moderate to high levels of use and has associated increased noise levels and the construction period would lengthen the time increased noise occurs at the area. Design features to limit the amount of time per day and the hours per day if construction continued into January provides protections for the areas wildlife. No impacts from the proposed action or the no action alternative.
NP	Rangeland Management Goodwin **Hughes**	7/28/14 7/30/14	ZH NT	The Proposed Action does not occur within an authorized grazing allotment.
NP	Lands/ Realty Authorizations **Sperandio**	1-21-2014	AS	There are no ROW authorizations in the proposed project area.
PI	Recreation **Monkouski** **Schechter**	8/1/14	HS	See Analysis
PI	**VISUAL RESOURCES** **Schechter**	7/30/14	HS	See Analysis
PI	**SOCIO-ECONOMIC** **Valente**	8/15/14	SV	See Analysis

Native American Tribes Contacted

Mike Lajeunesse, Chairman
Shoshone Business Council
Shoshone Tribe
P O Box 538
Ft. Washakie, WY 82514

Mr. Wilford Ferris
Tribal Historic Preservation Officer
Shoshone Tribe, Cultural Center
P.O. Box 538
Fort Washakie, WY 82514

Gary Hayes, Chairman
Ute Mountain Ute Tribe
P O Box JJ
Towoac, CO 81334

Mr. Terry Knight, Sr., THPO Director
Ute Mountain Ute Tribe
P O Box 468
Towaoc, CO 81334

Jim Shakespeare, Chairman
Northern Arapaho Business Council
P O Box 396
Fort Washakie, WY 82514

Darlene Conrad, THPO Director
Northern Arapaho Tribe
P O Box 396
Fort Washakie, WY 82514

Ernest House, Jr., Executive Secretary
Colorado Commissioner of Indian Affairs
130 State Capitol
Denver, Colorado 80203

Robert Goggles, NAGPRA Representative
Northern Arapaho Tribe
328 Seventeen Mile Road
Arapaho, WY 82510

Jimmy Newton, Chairman
Southern Ute Indian Tribe
P O Box 737
Ignacio, CO 81137

Lena Atencio, Director
Natural Resources Department, #65
P.O. Box 737
Ignacio, CO 81137

Irene Cuch, Chairman
Uintah & Ouray Tribal Business Committee
P O Box 190
Ft. Duchesne, UT 84026

Betsy Chapoose, Director
Cultural Rights & Protection Specialist
Uintah & Ouray Tribe
P O Box 190
Fort Duchesne, UT 84026

Alden Naranjo, NAGPRA Coordinator
Cultural Preservation Department
P.O. Box 737 Mail Stop 73
Ignacio, CO 81137

CHAPTER 5 – STIPULATIONS, MITIGATION MEASURES AND DESIGN FEATURES

Exhibit "B"

Gore Canyon Whitewater Park at Pumphouse (COC-76342)

Mitigation Measures:

- None

Design Features:

Specifics Pertaining to the Construction Equipment and Site:

- During the construction period, the area between Launch 1 and Launch 2 would be closed to the public. The applicant is responsible for posting the area to insure public safety.
- Equipment would be allowed to operate in the wet channels. Equipment operating in or adjacent to any wet channels would be free of any fluid leaks and in excellent operating condition. Biodegradable fluids would be utilized when feasible. No equipment would be left unattended at any time in any wet channel or below the Ordinary High Water Line. Any and all fueling and oiling of equipment would be in a designated upland location, with adequate BMPs to contain any potential spill, and would not be allowed in or adjacent to any channel. Oil booms would be installed at the downstream end of the Project Limits and functioning at all times while equipment is operating in the active channel or below the ordinary high water line.
- All construction equipment must be clean prior to entering the project area to prevent the spread of noxious or invasive species.
- A Spill Cleanup Plan would be posted and available at all times on site for all work areas prior to any construction activities and would include coordination with local emergency response agencies. A release of any chemical, oil, petroleum product, sewage, etc., which may enter waters of the State of Colorado (which include surface water, ground water and dry gullies or storm sewers leading to surface water) would be reported to the Colorado Department of Public Health and Environment immediately (25-8-601 CRS).
- The construction staging areas are depicted on the Care of Water Plan (Sheet C1) and Details (Sheet R5) and are located on the north and south side of the construction area. Both areas incorporate a contained oiling area with spill cleanup and a posted cleanup plan. In addition, both staging areas would contain stage pumps with spill containment. If additional staging areas are needed, existing disturbed areas such as the parking lots would be used to avoid new soil disturbances and to avoid potential impacts to the penstemon.
- Temporary equipment access areas are also depicted on Sheet C1 and are detailed on Sheet R-6. Each area provides access from the construction staging area to the river and incorporates appropriate Best Management Practices (BMP's). Upon construction completion, the access areas would become part of the bank terracing as depicted on the plans.

Whitewater Park Design and Construction

- The active construction areas would be isolated by turbidity curtains and/or aqua dams or equivalent. Temporary increases in turbidity may be associated with track equipment in the wet channel while setting and removing water control features and other BMPs. Track equipment may also excavate native channel alluvium and place natural boulders in the wet. No discharge of wet cement or cement laden turbid waters is permitted in the flowing channel. All isolated waters would be pumped and filtered before discharging into the main channel.
- All discharges of materials are below the Ordinary High Water Mark, in upland areas, or within the limits of the existing banks. No wetland soils or the potential for hydric soil development were observed within the limits of disturbance at the site. Approximately 0.025 acres of sparse riparian bank would incur temporary construction impacts and would be permanently stabilized with imbricated boulder necessary to construct the river recreation enhancement features.
- In-channel construction would be timed with the lowest flow periods, after the brown trout spawn and the majority of the recreational use. Construction mobilization is proposed and anticipated October 1, 2014. Commencement of construction is proposed November 15, 2014 through January 2015.
- Heavy equipment use would need to be concentrated during the months of November and December with curtailment during the month of January to minimize disturbance to bald eagle breeding behavior. If heavy machinery is still a necessity in January, hours of operation may need to be limited to 4 hours per day to allow quite periods of undisturbed courtship behavior to occur. The Kremmling Field Office biologist would closely monitor eagle activity in the project vicinity to assess the sensitivity of eagle use in the area. These limited hours of operation criteria would also be ~~accepatable~~ acceptable for big game use in the area.
- In order for contractors and staff to access the site during the construction months (November-January), winter maintenance by the contractor is being requested as part of this Application. Grand County would require that the contractor obtain proper required BLM bonding and insurance to cover said maintenance, along with required bonding and insurance for the overall construction project on BLM lands. This would be made part of the bid documents.
- The design of the proposed structure would be ADA accessible for viewing the wave. The Engineer/Contractor would approve the viewing area of the structure with the Outdoor Recreation Planner before construction. If fencing is required, post and cable would be used to limit the horizontal lines.
- Native vegetative disturbance would be avoided and minimized (especially large trees and shrubs) as much as possible
- Imported boulders would match the soil colors and/or native rocks.
- Recreational uses as a result of the proposed structure would need to be closely monitored to ensure that impacts do not occur within Harrington's Penstemon habitat. If existing infrastructure proves inadequate to support concentrated recreational demands, these sites would need to support other alternatives to support these activities while minimizing impacts to these Penstemon. Fencing could be a viable future option to avoid these impacts.

Post Construction:

- Local and dispersed recreation use would need to be closely monitored post construction to assess the "overflow" recreational use of the area and identify if these threats negatively impact nesting eagles. If it is determined that recreational impacts are negatively influencing eagle life stages in the vicinity, appropriate management actions would need to be taken to avoid these disruptions.
- If toilet pumping at Launch 2 toilets increases by more than double from 2014 numbers, Grand County would assist with cost of pumping.
- If the proposed structure creates the need for BLM staff to monitor/patrol this area and clear congestion off the roadway, Grand County would assist with the cost of additional staff or provide staff.
- If a safety hazard is created by people walking on the road between Launch 1 and Launch 3 with tubes, SUPs, inflatable kayaks, etc. to utilize the proposed structure, then Grand County would assist with the construction of trail and or the widening of the existing road for a trail (e.g., staff, machinery, and/or materials) between the Launch 1 and Launch 2 segment, where more earthwork could be required.
- Conduct post construction monitoring of the structure for unanticipated impacts associated with lateral scour and sediment aggradation. If determined to be problematic, these issues should be addressed via structure modification.
- Grand County could assist with the implementation of a fish passage study of the structure. If found to be more detrimental to upstream fish movement than initially thought, modify the structure accordingly to improve fish passage.
- The BLM would inspect disturbed areas for noxious weeds for two growing seasons after the project is completed. If noxious weeds are found, it would be the responsibility of the BLM to treat the weed infestations.
- Recreational uses as a result of the proposed structure would need to be monitored to ensure that impacts do not occur within Harrington's penstemon habitat. Fencing could be a viable future option to avoid these impacts.
- Future access needs for any required maintenance would be coordinated with the BLM to minimize potential impacts to cultural resources and to penstemon populations.

Standard Stipulations:

- The holder would contact the authorized officer at least 5 (five) days prior to the anticipated start of construction and/or any surface disturbing activities. The authorized officer may require and schedule a preconstruction conference with the holder prior to the holder's commencing construction and/or surface disturbing activities on the right-of-way. The holder and/or his representative would attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the right-of-way, would also attend this conference to review the stipulations of the grant including the plans(s) of development.
- No construction or routine maintenance activities would be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 4 (four) inches deep, the soil would be deemed too wet to adequately support construction equipment.

- All equipment would be washed for all plant material prior to any activities on BLM lands. The Bureau of Land Management (BLM) would monitor and eradicate invasive, non-native species that become established on the site.
- The holder would seed all disturbed areas, using an agreed-upon method suitable for the location. Seeding would be repeated if a satisfactory stand is not obtained as determined by the authorizing officer upon evaluation after the second growing season. Seed mix should include salt tolerant plants.
- The holder is responsible for informing all persons in the area who are associated with this project that they would be subject to prosecution for disturbing historic or archaeological sites, or for collecting artifacts.
- The holder would immediately bring to the attention of the Authorized Officer any and all antiquities, or other objects of historic, paleontological, or scientific interest including but not limited to, historic or prehistoric ruins or artifacts DISCOVERED as a result of operations under this authorization (16 U.S.C. 470.-3, 36 CFR 800.112). The holder would immediately suspend all activities in the area of the object and would leave such discoveries intact until written approval to proceed is obtained from the Authorized Officer. Approval to proceed would be based upon evaluation of the object(s). Evaluation would be by a qualified professional selected by the Authorized Officer from a Federal agency insofar as practicable (BLM Manual 8142.06E). When not practicable, the holder would bear the cost of the services of a non-Federal professional.
- Within five working days the Authorized Officer would inform the holder as to:
    - whether the materials appear eligible for the National Register of Historic Places;
    - the mitigation measures the holder would likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
    - a timeframe for the Authorized Officer to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the Authorized Officer are correct and that mitigation is appropriate.
- If the holder wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the Authorized Officer would assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the holder would be responsible for mitigation costs. The Authorized Officer would provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that the required mitigation has been completed, the holder would then be allowed to resume construction.
- Antiquities, historic, prehistoric ruins, paleontological or objects of scientific interest that are outside of the authorization boundaries but directly associated with the impacted resource would also be included in this evaluation and/or mitigation.
- Antiquities, historic, prehistoric ruins, paleontological or objects of scientific interest, identified or unidentified, that are outside of the authorization and not associated with the resource within the authorization would also be protected. Impacts that occur to such resources that are related to the authorizations activities, would be mitigated at the holder's cost.
- Pursuant to 43 CFR 10.4(g), the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4

(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

- If paleontological materials (fossils) are discovered during construction activities, the operator is to immediately stop activities that might further disturb such materials and contact the authorized officer. The operator and the authorized officer would consult and determine the best option for avoiding or mitigating the paleontological site.
- The holder(s) would comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) would comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 would be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances would be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
- One month prior to termination of the right-of-way, the holder would contact the authorized officer to arrange a joint inspection of the right-of-way. This inspection would be held to agree to an acceptable termination (and rehabilitation) plan. This plan would include, but is not limited to, removal of facilities, drainage structures, or surface material, recontouring, top-soiling, or seeding. The authorized officer must approve the plan in writing prior to the holder's commencement of any termination activities.

Appendix 1: Seed Mix

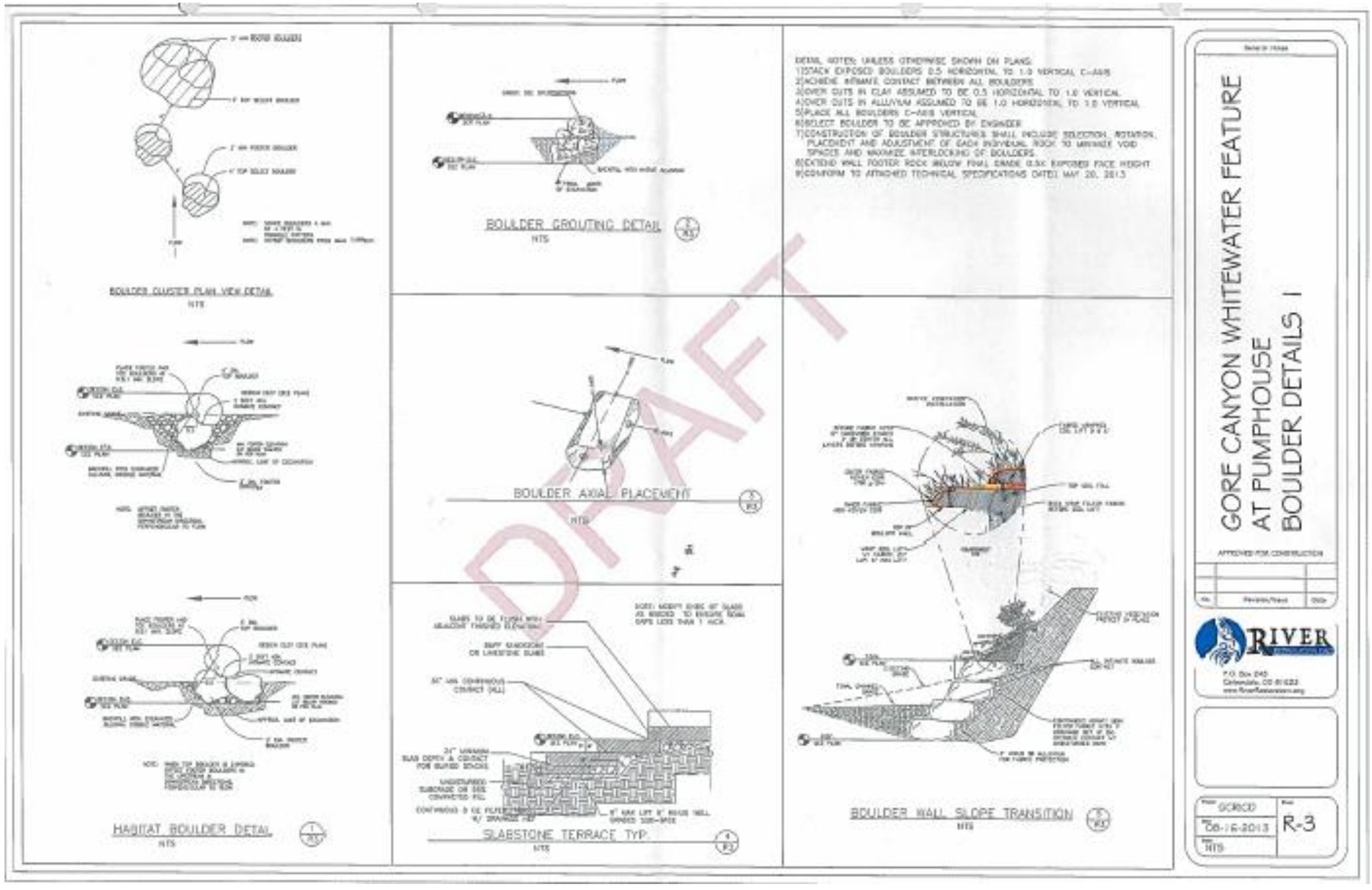
SUGGESTED SEED MIX* FOR RECLAMATION

Western Wheatgrass	Pascopyrum smithii	6.0 lbs pure live seed (PLS)/acre
Bluebunch Wheatgrass	Pseudoroegeneria spicata	6.0 lbs PLS/acre
Slender Wheatgrass	Elymus trachycaulus ssp: trachycaulus	6.0 lbs PLS/acre
Canby bluegrass	Poa canbyii	2.0lbs PLS/acre
Indian ricegrass	Achnatherum hymenoides	4.0 lbs PLS/acre
	TOTAL	24.0 lbs PLS/acre

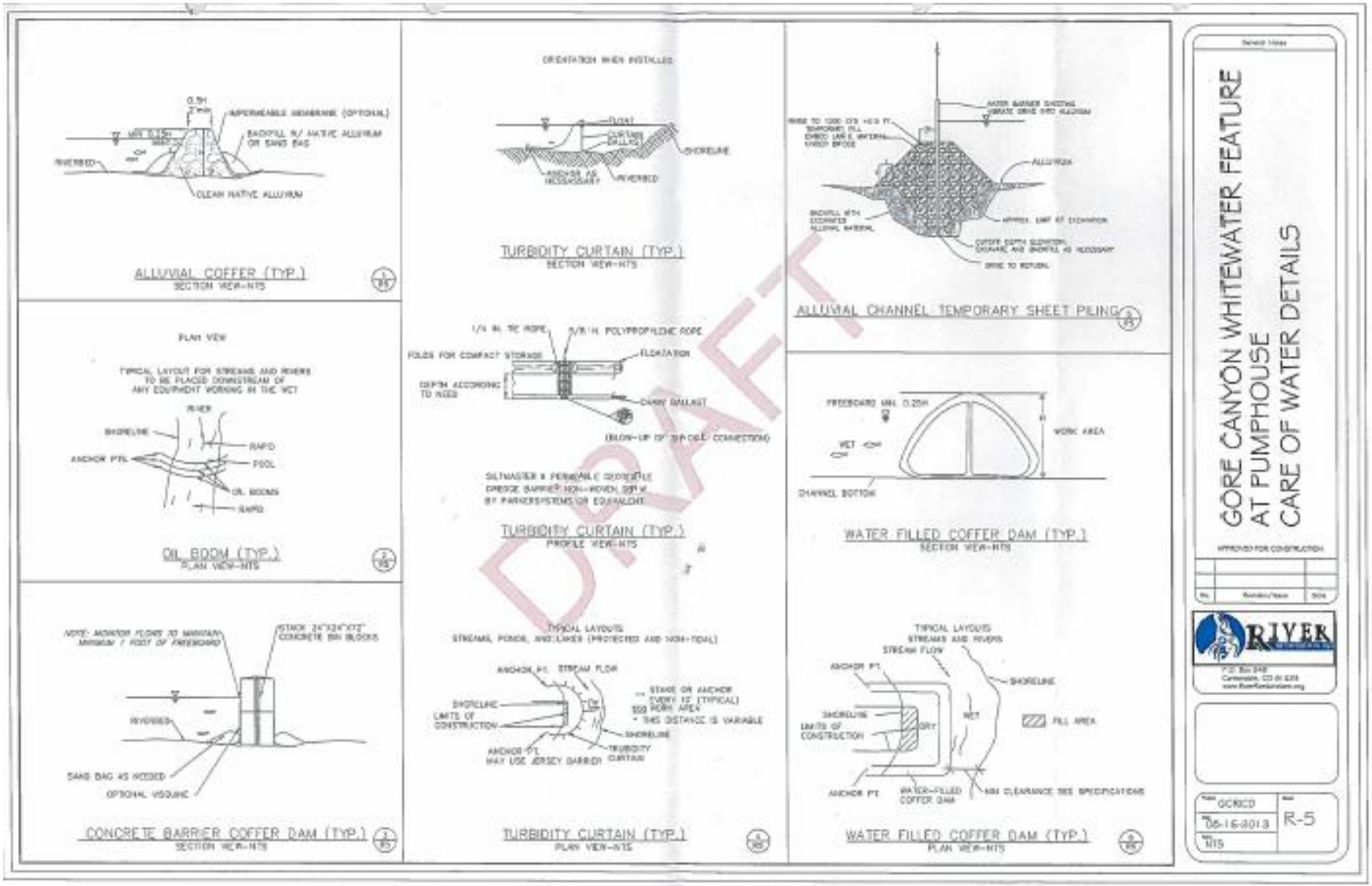
Seeding rates are for broadcast seeding. If drilled, seeding rates may be halved.

*All seed must be certified weed free

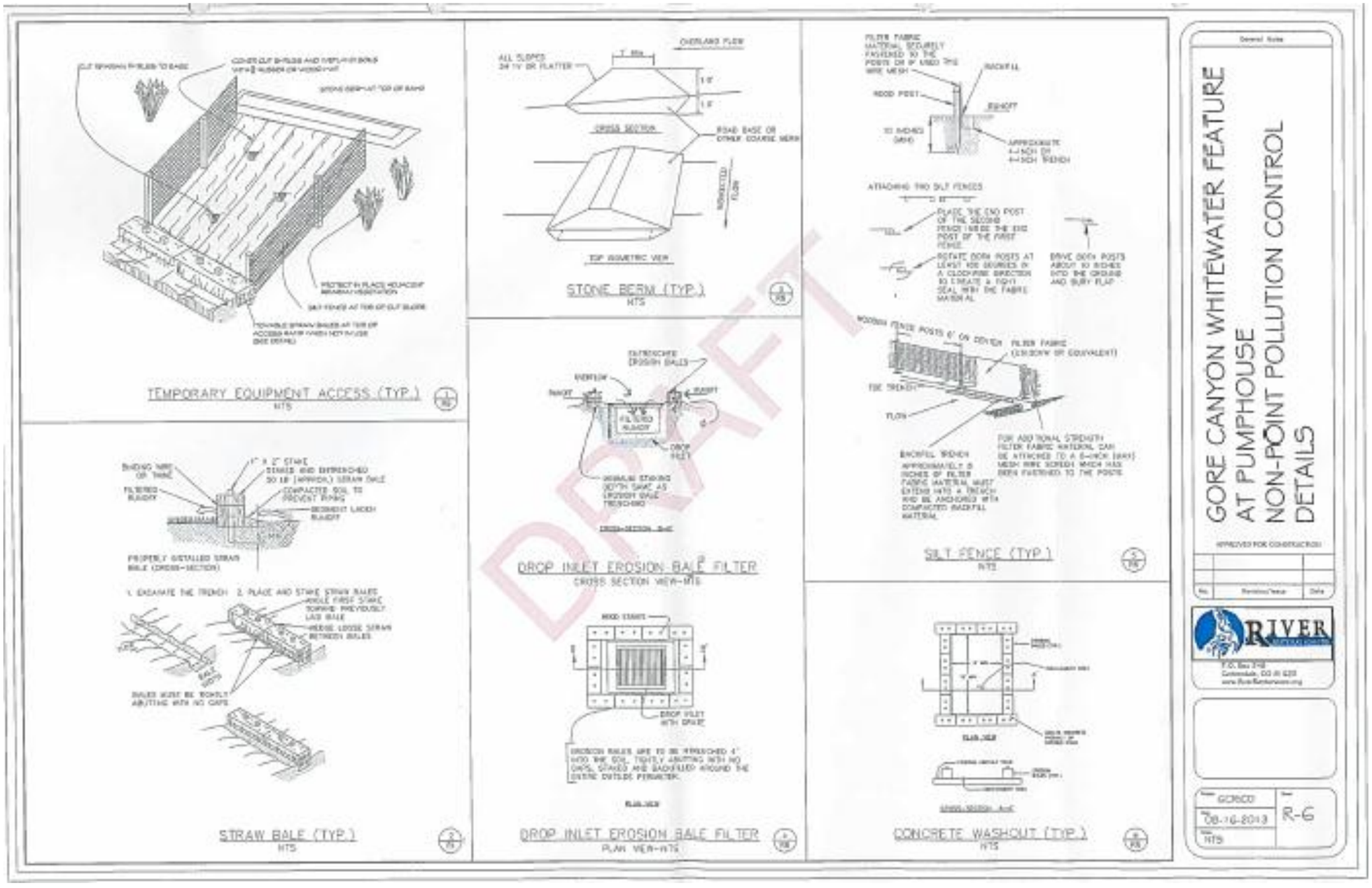
Appendix 2: R-3 Boulder Details



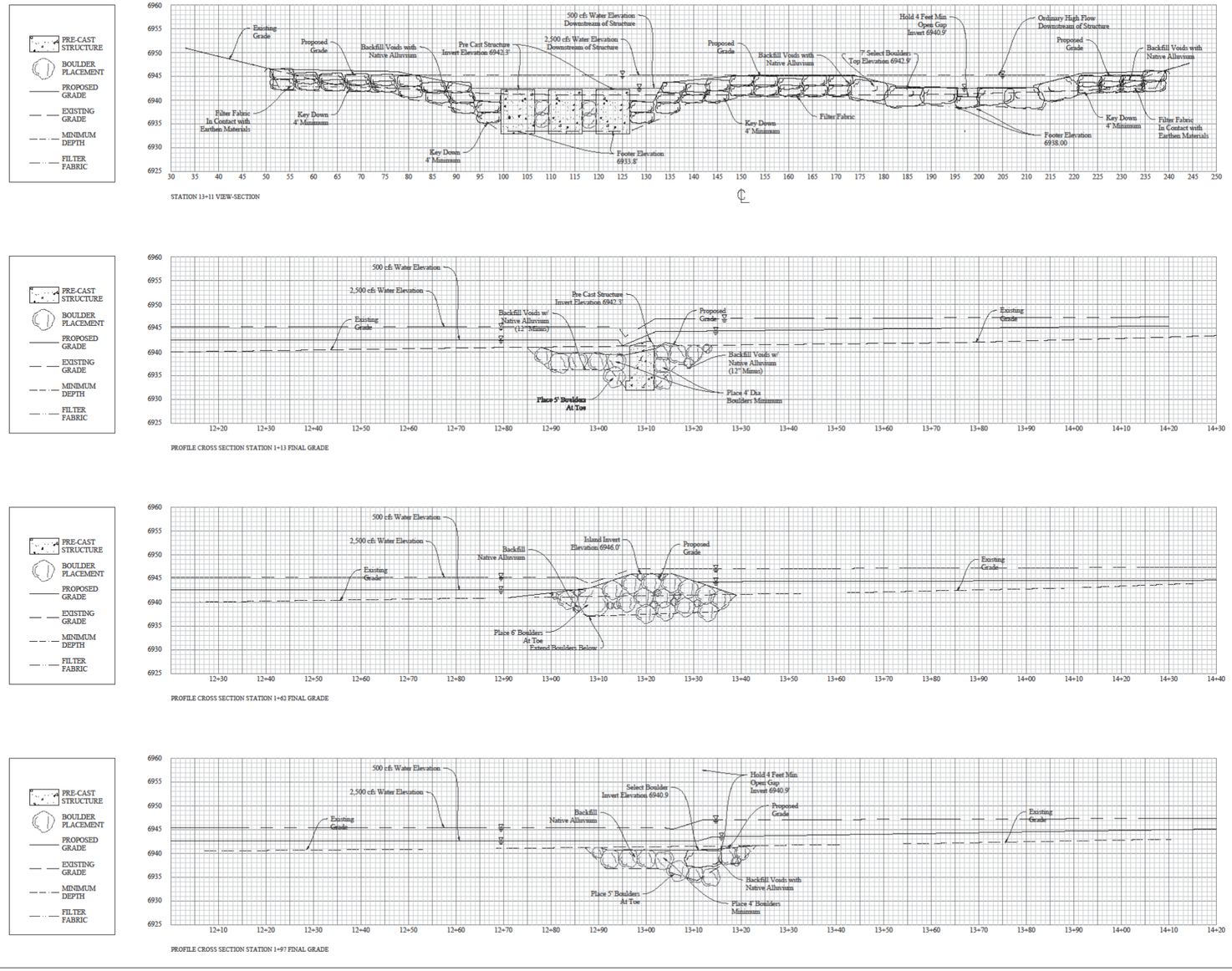
Appendix 3: R-5 Coffer Dam and Turbidity Curtain Design



Appendix 4: R-6 Water Quality Protection During Construction



Appendix 5: C-4 Design for Proposed Action (Revised Design)



General Notes

GORE CANYON WHITEWATER FEATURE
AT PUMPHOUSE
SECTIONS I

NOT FOR CONSTRUCTION

No.	Revision/Issue	Date

RIVER RESTORATION.ORG
P.O. Box 248
Carbondale, CO 81623
www.RiverRestoration.org

GRAND COUNTY
COLORADO RIVER

Project	Sheet
GCRICD	C-4
Date: 04-22-2014	
Scale: 1" = 10'	

Appendix 6: Scoping Comments and Responses

Date	Person/Agency Commented	Issues and Comment Summaries	BLM Response
2/27/2014	Colorado Parks and Wildlife	- Upstream fish migration and degrading of aquatic habitat and macro-invertebrate populations	Comment noted. More detailed analysis was done on the proposed structure and modifications were made to ensure greater fish migration. Also, further studies are being done to monitor for habitat and population changes.
		- Valueable sport fishery and float fishing passage	More detailed analysis was done to ensure passage of float boaters and included in the EA.
		- Brown Trout spawning in relationship to construction timing	Construction and implementation timing were changed to prevent potential impacts to Brown Trout.
		- Spread of invaisive weeds due to equipment use and revegetation seeding mixtures	Comment noted. The control of invaisive species is included in the design features of this project.
1/27/2014	Ryan Barwick, MAD Adventures	Looks forward to seeing this project completed	Comment noted.
1/25/2014	Andy Horn, Mountain Buzz	Site specific maps needed of proposal	Comment noted. Site specific maps were added to the information posted on the website in response to this comment
1/30/2014	Forrest Kirk, AVA Rafting	Love to see a whitewater park put in	Comment noted.
2/5/2014	Rick Pylman	Support the proposed park	Comment noted.
1/25/2014	Tony Miely	Full support of construction of a park	Comment noted.
1/25/2014	Jennifer Pelaez	This project will depend on the quality of the wave/hole features; Want a truly functional wave that will support competition event but not too intimidating for the public.	Comment noted.
2/5/2014	Jenifer Johnsrud	Excited about the new park	Comment noted.
1/28/2014	Tim Andrews	The area is crowded and another feature is unnecessary.	Comment noted. Increased useage was analyzed within the document.
1/27/2014	Javier Placer	Wants information on how this can be used by various types of watercraft.	Comment noted. Information and analysis provided in document on different types of watercraft at different water levels.
1/25/2014	Neil Douglas	Fully support whitewater features	Comment noted.
1/28/2014	Jeff, Rancho del Rio	Concern about float fishing access and the river flows	Comment noted. Analysis concerning float fishing access and river flows is in the document.
1/27/2014	Ian Foley	Fully support whitewater recreation feature	Comment noted.

Date	Person/Agency Commented	Issues and Comment Summaries	BLM Response
1/29/2014	Paul Kelly, First Descents	Support of "measure" however concern over increased recreation usage and impacts on camping.	Comment noted. Increased useage was analyzed within the document.
1/29/2014	Kevin Lovett	Fully support whitewater recreation feature	Comment noted.
2/6/2014	Kyle McCutchen	Fully support whitewater recreation feature	Comment noted.
2/27/2014	Thomas M. Schneider, Sunrise Anglers LLC	Opposed to further development, crowding, and loss of remoteness, although in support of "guaranteed" water flows.	Comment noted. Increased useage was analyzed within the document.
2/28/2014	Rob Firth, Trout Unlimited	Fully support whitewater recreation feature however concern over macro-invertebrates and fish. Request BLM review of design and structure to allow for fish passage, sediment transport and sediment deposition downstream of site.	Comment noted. More detailed analysis was done on the proposed structure and modifications were made to ensure greater fish migration. Also, further studies are being done to monitor for habitat and population changes.
1/25/2014	Jacob Vos	Fully support whitewater recreation feature	Comment noted.